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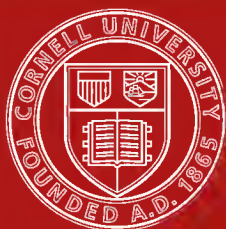
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OUTLINES
OF
PSYCHIATRY

BY

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FOREWORD.

In putting forth this little work it is not expected that it will take the place of the larger text-books. No claim whatever is made for exhaustiveness, completeness or originality—it is merely intended to afford a helpful guide to my students, so that they can follow my lectures more easily and more satisfactorily. I have endeavored to describe in a manner as clearly as possible and in a way to be easily understood by the students the principal types of mental disorder, especially with a view of providing the young physician just entering on practice with a working knowledge of the subject. To these descriptions I have prefaced a short account of the nature of the human mind and the fundamental psychological processes for the purpose of providing a proper foundation for what follows and also to place the student in possession of certain general facts so that he will be better able to orient what he may observe.

In arranging the work the first consideration has been the convenience of the student. Important words are italicized and these words occurring in the index can thus be readily found by reference to the page, while the student will find it easier to skim over the pages rapidly and pick out just what he wants. While current literature on insanity has been freely consulted, references and foot-notes have been avoided so as not to detract in any way from the continuity of the text, and the incorporation of extended case histories has also been avoided for the same reason.

I wish here to acknowledge my indebtedness to Dr. Shepherd Ivory Franz for the preparation of the substance of Chapter VII, and to Dr. Smith Ely Jelliffe for many valuable

suggestions, while I desire also to record my thanks to the several members of the medical staff for assistance in supplying case histories, stenograms, and in many other ways.

W. A. W.

GOVERNMENT HOSPITAL FOR THE INSANE,

- WASHINGTON, D. C.,

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OUTLINES OF PSYCHIATRY

CHAPTER I.

PSYCHOLOGICAL INTRODUCTION.

Insanity has been defined as an absence of sanity. This is rather an evasion than a definition. The difficulty is simply once removed and it becomes necessary to define sanity. An attempt to do this would demonstrate much the same difficulties that we had when attempting to define insanity. However, a material advance towards both ends, or at least towards understanding both conditions can, I think, be made by describing briefly the fundamental processes of the normal mind. Before doing this, however, a few preliminary considerations are necessary.

The body is made up of a great number of organs each one of which has a definite purpose: The kidney to secrete urine, the lungs to carry on respiration, the heart to force blood through the vessels, the stomach and intestines to digest and absorb nutrient. Definite as is the function of each of these organs its action must be timed in response to certain conditions and in relation to the other organs of the body or it does not serve its purpose in the individual economy. The stomach must secrete its juices when food is introduced, the bladder contract when there is urine to be expelled, the active brain must be supplied with an increased amount of blood, the kidneys and the skin must act harmoniously together to excrete certain substances, the respirations increase on physical exertion and so on indefinitely. Now it is the duty of the nervous system to see that the functions of the several organs are

rightly timed and properly adjusted in relation to one another. This is the function of the lower nerve centers.

The highest nerve centers of the cerebral cortex that constitute the physical basis of mind have quite a different function. Their duty is to so regulate and control the actions of the individual as to best serve his interests in his relations with his environment.

In order to do this the mind must obtain knowledge of the environment through the sense organs, assimilate this knowledge, and then act in accordance with it. To illustrate: A man standing in the middle of the street sees a runaway team dashing towards him. His sense organs take the information to his mind of the presence of the runaway team, its distance from him, the distance to the sidewalk from where he stands and many other things. His mind assimilates all these facts and by a process of reasoning reaches the conclusion that safety lies in his immediately gaining the sidewalk which is in front of him. The necessary volitional processes are initiated and thus the actions of the individual are so related to the conditions in his environment as to conserve his best interests: in this case to save his life.

In order that the adjustment of the individual to his environment could take place three things were necessary: (1) A knowledge of the environment must be gained. (2) This knowledge must be associated and brought into relation with previous experiences. (3) It must be transformed into the appropriate actions. The *sensorium* subserves the first of these functions, the *intellect* the second, and the *motorium* the third. The function of the sensorium is *perception*, of the intellect *thinking*, and of the motorium *volition*. (See Fig. 1.)

With this broad view of the function of consciousness to guide us we may now describe the separate processes more in detail.

As we have seen all our information of the environment must come through our sense organs it follows of necessity that sensations play an important part in making up the con-

tent of consciousness. These *sensations* are the result of the stimulation of the sensory nerves, usually their terminals in the specialized end organs, and in the last analysis comprise the unanalyzable material out of which consciousness is composed much as the atom in the Daltonic conception of matter

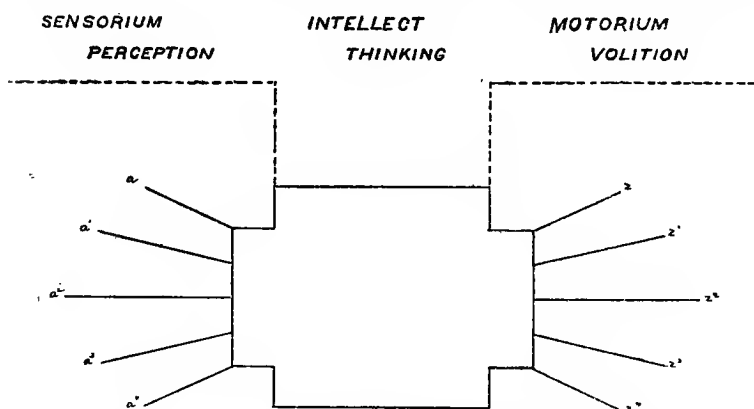


FIG. 1. a , a^1 , a^2 , a^3 , a^4 , represents the afferent peripheral nervous system, the avenues for conveying sensory impulses inward to the mind. z , z^1 , z^2 , z^3 , z^4 , represent the efferent peripheral nervous system, the avenues through which motor responses travel.

was supposed to be the unanalyzable unit which by combination with others both similar and dissimilar went to form masses of matter as we know them. So the eye gives us sensations of light of different colors and intensities, the ear sensations of sound of varying qualities and loudness and so on in each sensory realm the sensations received being variable both qualitatively and quantitatively.

If we will stop and consider for a moment, however, we will see at once that these elemental sense experiences, like atoms, cannot exist alone and uncombined: That sensations of light, sound, pain, coldness, can never as such go to make up a conscious state. In front of me as I write is something which produces the sensation of a variously shaded, round patch of yellow, but even while looking at it I know much more of it

than simply that it is a patch of yellow: I recognize it as an orange. What has been added to the visual sensations of roundness and yellowness to produce this result? Just this. Many times in the past have I had the same sort of sensations of roundness and yellowness impressed on my consciousness and many times in connection with these sensations have been others of touch, taste, and smell and to their combination I have in the past given the name orange. So now when the sensations of roundness and yellowness are received they call up in consciousness those other sensory elements of touch, taste, and smell which have occurred before. The association of the previous with the present sensory elements causes me to recognize the round patch of yellow—not solely as a patch of yellow—but as an orange. To this process of forming an image in the mind of an object presented to the senses is given the name *perception*.

It is this process of perception which furnishes to the individual the knowledge of his environment which by association with the knowledge gained in the past leads to appropriate *actions*. This process of association is an association with *ideas* which may be said to be images of objects formed in the mind but not presented to the senses at the time. The only difference then between percepts and ideas is the presence in the former of sensory elements.

This process of the relation of percept to ideas and the association of ideas one with another or in general terms this process of the assimilation and rearrangement of the materials of knowledge furnished by the senses with the materials already present in consciousness is the process of *thinking*. Now when from the association of two or more ideas there issues forth a new and different idea the process which produces this result is the process of *reasoning* and the new idea is known as a *judgment*.

Having received information of the environment by the process of perception and having assimilated the various percepts, reasoned regarding them and reached certain judgments,

the next thing in the order of events is the initiating of appropriate actions. If the reasoning is at all complicated there are usually several judgments formed, each one of which may tend to express itself in an appropriate action, the strongest one finally, however, succeeding in expressing itself. This conflict of tendencies has been described as the "battle of motives" by Ziehen who gives the following illustration:

"I see a rose in a strange garden (stimulus and sensation). A long series of ideas is aroused by the stimulus and the visual sensation of the flower (idea-association). For instance, the memory of the rose's fragrance comes to mind, then I think how well it would look in my room, that it is the property of another, that plucking it would be punishable, and so on. Only after the whole series of presentations has passed before the mind does action follow, and whether I pluck the flower or go my way without it will depend upon the strength and intensity of the conquering idea."

The conscious realization in action of the strongest motive is the process of *volition* and is accomplished by a feeling of freedom to choose which motive shall dominate. The sum total of the actions of the individual is known as *conduct*.

All of these various processes which have been described must of course be conceived of as taking place in conjunction with certain physiological processes in the cells and fibers of the highest nerve centers. These physiological processes, here as elsewhere, involve changes in the energy and the material substance of cells and fibers and so when a certain mental process has occurred once accompanied by its correlative physiological process the changes in nerve cells and fibers will have left such an impress that a subsequent process of this sort will occur more readily. In other words a mental process having once occurred tends to recur in the same way when the same conditions are repeated. This tendency is the physiological basis of *memory*, which psychologically may be said to be the recurrence to consciousness of a previous experience and the recognition of it as having occurred before.

All mental processes, besides these special qualities which characterize them, are accompanied by certain general conditions of consciousness known as *affects* which are pleasant or unpleasant, pleasurable or painful, agreeable or disagreeable, and like sensations are unanalyzable, elemental, constituents of consciousness. These pleasurable or painful conscious states arise as the result of the interaction between the individual and the environment and are known as *feelings* when this interaction is relatively simple and direct, *i. e.*, a shrill whistle may be accompanied by a feeling that is disagreeable to the point of being actually painful. When the interaction is relatively more complex and indirect there may result the state of consciousness known as an *emotion*, *i. e.*, the bell of a locomotive and the hiss of an air brake is heard coupled with screams and cries of pain. The mind at once pictures to itself an accident and the emotion of fear arises in consciousness. If the interaction is still more complex and indirect *sentiments* arise such as honor, patriotism, etc.

From this description of the processes of the mind it will be seen that they are most intimately connected, in fact that they are not separate and distinct in any sense, but only parts of a large whole. The old psychology conceived of mind as composed of a number of cubby holes in each one of which was pigeon-holed a special faculty, feeling, thinking, volition, each one of which was quite as distinct from the others as this illustration implies. Now, however, all that is changed. The "faculty concepts" are conceived of as what they really are, "class designations of certain departments of the inner experience," and not "forces, by whose means the various phenomena are produced." "Objectively, we can regard the individual mental processes only as inseparable elements of interconnected wholes." Mental processes, from their incidence in sensations to the release of the motor responses constituting conduct are conceived to have as their physical substratum a continuous neural process. The process, although differently named in different parts of its course for convenience of designation, is a continuous one.

CHAPTER II.

DEFINITION OF INSANITY.

In discussing a subject, especially if there be some question as to its nature, it is natural that the first consideration should be given to defining it. A definition, to be a perfect one, should include everything that the term defined is applicable to and exclude everything to which the term is not applicable. Innumerable attempts to frame a definition of this sort of insanity have been made by eminent alienists all over the world but up to the present time it can not be said that there is a satisfactory definition of insanity in existence. And after all it is not strange that this should be the state of affairs. Mind is a function of the highest nerve centers of the brain, and the brain is the most complex development of organic evolution. It does not seem strange therefore that the disorders of this complex should not be reducible to the simplicity of a definition.

Notwithstanding our inability to define insanity, however, it often becomes desirable to designate what insanity is as accurately as possible in a few words. A definition is not infrequently asked for in court and it is necessary for the physician to have one ready at hand, always, however, fully appreciating its limitations. For this purpose there are several short definitions which are good. Some of the best are the following:

That mental condition characterized by a prolonged change in the usual manner of thinking, acting, and feeling, the result of disease or mental degeneration (Chapin).

Insanity is a manifestation in language or conduct of disease or defect of the brain (Peterson).

A cerebral affection, ordinarily chronic, without fever, characterized by disorders of the sensibility, of the intelligence, and of the will (Esquirol).

Insanity is a special disease, a form of alienation characterized by the accidental, unconscious, and more or less permanent disturbance of the reason (Régis).

Insanity is a more or less permanent disease or derangement of the brain producing disordered action of the mind in such a way as to put the subject in a condition varying from his normal self and out of relation with his environment (Brower and Bannister).

Insanity is a serious alteration in the psychical functions of the brain. This leads to such departure from the normal in speech and conduct that the patient can no longer adapt himself sufficiently to his environment (Dana).

Insanity is a symptom of perverted function or of disease of the brain that impairs or destroys mental integrity (Eskridge).

All of these definitions have their good points as well as their defects. Perhaps by combining the good points and eliminating the bad we could hope to reach a definition somewhat more, although of course not altogether, satisfactory.

The word insanity is applied with reference to the mind, not with reference to the organ affected or the disturbance in that organ, whatever it may be. The word is used to denote a condition of the function mind and not of the organ brain. We may then start our definition by saying that *insanity is a disorder of the mind*. Mind, however, as we have already had reason to assume, must be conceived of as being the expression of a neural process, and a disorder of mind cannot be conceived of without postulating a disturbance in this neural process. If then, for the purpose of this definition, we use the word disease to indicate such a disturbance in the neural process, and the word brain to apply to the physical substratum of mind then we may amplify our definition by adding *due to disease of the brain*.

The use of the word disease here is, I am aware, somewhat broader than usual. It is, however, desirable to make the wording of a definition simple, avoiding as far as possible explanatory or abstruse phrases. Disease ordinarily refers to

a process producing tissue changes. While many of the forms of insanity are due to such a condition in the brain there are others that present no demonstrable lesion or in fact are due to disease of some other organ. For instance, nephritis may cause uræmia, which in time may produce a psychosis due to the poisoning of the brain by the products of faulty tissue metabolism. Here the patient would hardly be thought of as suffering from a disease of the brain, but rather from a disease of the kidneys. The insanity is entirely a secondary affair. We cannot doubt, however, that there is a disturbance of the neural processes underlying the phenomena of mind. Quite likely these disturbances are too minute to result in demonstrable tissue changes, perhaps they may be chemical in nature, they are nevertheless as real as though they were on a larger scale, and it seems to me that such alterations can properly come under the connotation of the word disease. Further than this the conception of insanity as due to disease of the brain is entirely in harmony with modern ideas of the relation of the mind to the brain and with modern brain pathology which is constantly narrowing the group of insanities without demonstrable changes in the brain.

To be more specific. Of what does this disorder consist? It must consist of disorders of some or all of the mental processes already described. The fundamental processes of mind disorder of which produces insanity are thinking, feeling and acting. Disturbance of the process of receiving information from the environment cannot of itself constitute insanity. Thus blindness, whether peripheral or central in origin, simply makes it impossible for the individual to receive certain kinds of sensory experiences, it does not produce a disorder of the mind.

The elementary materials of knowledge are brought in from the sense organs by the afferent nerves. Disturbances in the sense organs and nerves leading from them can therefore only result in a change in the character of this material brought to the mind and cannot in any way be symptoms of its disorder.

Simple sensations, however, practically never occur without some element of perception and these simple perceptions stand at one end of a series, the other end of which is constituted of the most complex intellectual operations.

Although I have designated perception as the function of the sensorium yet this does not strictly conform to the facts in the case and was rendered necessary because of the limitations of language in an attempt to classify the mental processes in an easily intelligible way. As soon as one attempts to split things up in nature into distinct and clearly defined subdivisions we must compromise somewhere, because such clean-cut divisions do not exist, but as in this case are constructed purely for convenience.

The process of perception, as long as it was involved solely in associating present with past sensations, might be said to be purely a function of the sensorium, but as was said above pure, elementary sensations practically never occur, so that perception always involves association with previous mental states, feelings, ideas, and when as a result the round, yellow patch of color in front of me is perceived to be an orange such complicated mental processes are involved as recognition, classifying, naming. The processes are all processes of assimilation, combination, and rearrangement of the materials of knowledge, and as such are functions of the intellect. It is for these reasons that disorders of perception are not included in the definition of insanity, for when they occur they involve disorders of thinking. The mind must be disordered before the materials of knowledge brought in from the sense organs by the afferent nerves can be so combined as to produce symptoms of insanity. The most characteristic disorders of perception, hallucinations, probably never occur primarily as evidence of mental disease, but only secondarily as a result of disorder of the central receiving apparatus.

Disorders of memory also cannot alone constitute insanity. These disorders are in the main disorders of impressibility and of retentiveness, but impressibility and retentiveness in reality

are conditions of the physical substratum underlying the manifestations of memory. The mere fact that this nervous substratum is impressed more or less deeply and permanently by a process occurring within it does not in any way involve the nature of the special process under consideration. Thus disorder of memory alone, unaccompanied by other symptoms of the disorder on which it depends or by secondary symptoms growing out of it, quite contrary to the popular belief, cannot constitute insanity, although it is frequently found as an intimate part of the clinical picture.

Disturbances in the processes of thinking, feeling, and acting we may expect to find in every case. In the old "pigeon hole" psychology with its many "faculties" we might expect to find disorders of the most circumscribed kind. Now, however, we conceive the neural process underlying mind to be continuous. Any disturbance which produces insanity is a disturbance of this process, and the process as a whole must suffer from a disturbance of any part of its course. Of course the amount of the disturbance may be variously distributed so that the brunt may fall here or there, but feeling, thinking and acting may be expected all to show some trace of disorder if examined into carefully, although it may appear that only one is affected. For instance, paranoia was long thought to show only intellectual and perhaps volitional disturbance. We now know, however, that disturbances of feeling are among the most prominent of its early symptoms.

What is the nature of this disorder of thinking, feeling, and acting which constitutes insanity? The use of the word insanity presupposes the existence of a previous state of sanity. Now sanity may not by any means be a normal condition. There are all sorts of mental states of idiocy, idio-imbecility, imbecility, and feeble-mindedness that are far from normal, but they are conditions which for the individual in question are sane. In drawing a distinction between dementia and idiocy, Esquirol well said: "The demented man is deprived of the good that he formerly enjoyed; he is a rich man become poor;

the idiot has always lived in misfortune and poverty." The idiot, the imbecile, the feeble-minded lack something; the insane are suffering from a disorder of that which they possess. We thus may find all sorts of mental conditions which are sane for the individual, and as we have no normal standard of comparison for all people, the best we can do is to compare the individual with his own normal standard, with his condition previous to the onset of disorder; in other words, with the state of mind that has been normal, habitual, usual with him.

Reviewing all the conclusions thus far reached adds to our definition so that it reads now: *Insanity is a disorder of the mind due to disease of the brain manifesting itself by a more or less prolonged departure from the individual's usual manner of thinking, feeling, and acting.*

Having indicated thus far, in a general way, what insanity is; what it is due to; what the processes involved are; and the nature of their involvement, there remains but one further feature that I believe a definition of insanity should contain.

In my description of the functions of the brain I showed that in general the function of the brain is to subserve the adjustment of the individual to his environment. Of course in general such an adjustment constitutes life itself, which as defined by Spencer is "the continuous adjustment of internal relations to external relations." But whereas the lower nerve centers subserve the adjustment of the various organs with one another and with external conditions, the higher centers, the physical substratum of mind, subserve the adjustment of the individual as a whole to external conditions. It therefore follows that the most full and complete mental life is that which adjusts the individual most completely to the conditions of his environment: the best mind, that which is capable of the greatest latitude of adjustment, that enables the possessor to fill any position in life in which he may be placed. And conversely, the poor mind, the narrow mind, permits only a limited adjustment, either limited in the particular position of life occupied by the individual or limited as to its possibilities

of scope, or both. The mental life is carried on within relatively narrow limits.

Whatever may be the limits of adjustability for the individual any disorder of the mental processes must necessarily interfere with it. But as we have seen, in discussing the nature of this disorder that we had no absolute standard of comparison but were forced to compare the individual's present condition with his condition in the past, with his usual condition, so here all degrees of adjustability are found in different people and the most limited may, for the individual concerned, be normal. The interference with the adjustment of the individual with his environment is therefore a disorder in so far as it is a departure from his previous, his usual condition.

From the standpoint of disordered function, insanity is then the expression on the part of the individual of his *type of reaction* to the conditions of his environment. Insanity cannot be spoken of as a disease any more than hyperchlorhydria; it is but a symptom—a type of reaction, an effort on the part of the individual to meet conditions. It is true that some disease may be at the bottom of this disturbance of adjustment, perhaps a disease of the brain such as paresis renders the reactions of the individual inadequate, for we must remember that the brain is just as truly a part of the environment of the mind as the rest of the body, or in fact as anything even outside of the body.

The complete definition of insanity would then read: *Insanity is a disorder of the mind due to disease of the brain manifesting itself by a more or less prolonged departure from the individual's usual manner of thinking, feeling, and acting, and resulting in a lessened capacity for adaptation to the environment.*

As I have intimated all along a perfect definition of insanity is impossible because our knowledge of the subject to be defined is not complete. As our knowledge increases our ideas must constantly change and definitions can be but the crystallized product, as it were, of our ideas at any one time. We can see already how far we have advanced from the time of Esquirol,

who emphasized in his definition that insanity was a cerebral affection "without fever."

Aside from these considerations we found that the definition had to be at best a compromise. To clearly define a subject, to put a fence about it, as it were, is impossible, when as a matter of fact that subject merges into the adjacent territory at all points. We found, for instance, that there was no standard of comparison that could be called sanity, deviations from which constitute insanity, and again, even in the use of language difficulties arose and the word disease had to be broadened in its scope of application, while the term perception was seen to stand for a process so indefinite in its limitations as to result in serious embarrassment in its use.

The definition finally reached is, I fully realize, imperfect and at best a compromise, and I am aware that it does not greatly differ, especially in parts, from the definitions already in existence. I have endeavored, however, to make the wording of it somewhat more exact and its synthesis, I trust, may prove a suggestive review in a few words of the nature of insanity in the light of our present knowledge.

CHAPTER III.

CLASSIFICATION OF MENTAL DISORDERS.

When we come to the question of the classification of the different forms of insanity we find a condition of affairs quite as unsatisfactory as that which confronted us in attempting to define it. Almost every author of note has put forth his own separate classification and we are treated to all kinds from the simplest comprising only three or four groups to the most complex comprising forty or fifty or even more. The problem of classification has been approached from every side: the psychological, the pathological, the etiological and the clinical, and while some authors adhere to one point of view the majority do not, but offer a classification based on all four considerations. This latter position is practically necessary as there are types which lend themselves only to classification from one of these standpoints and find no classification on any other basis.

As a matter of fact our knowledge of insanity is altogether too limited at present to justify the expectation that the problem of classification can be solved. Any attempt at grouping mental disorders under separate heads must at present be but tentative and incomplete. The author will not attempt to offer any scheme of classification but in the various chapters of this work will discuss the forms of mental disorder which are generally acknowledged to exist and while endeavoring to give a clear picture of types will take the broad view which realizes that the different forms of mental derangement are not capable of clean-cut demarkations but that on the contrary many of the present groups will in the course of time be broken up into smaller groups as we come to more accurately differentiate cases and appreciate more fully the true value of signs and symptoms. In fact, we are only beginning to learn that dis-

ease types are not the absolutely definite things they were originally supposed to be and that each and every case need not of necessity be classified under one and only one caption for all time. A diagnosis that is in order to-day may be quite inaccurate and non-descriptive six months hence, while aside from the fact that in the course of the chronic psychoses acute symptoms may develop which have absolutely no relation to the fundamental disease type we must appreciate the fact that there are many cases that so truly partake of the symptoms of two psychoses as to make their relegation to either group equally impossible. Then again within the larger groups all grades of transition cases may be found, while a certain few cases defy all attempts at classification whatever.

The term insanity includes a great multitude of different conditions—of different sorts of reactions—due to a host of different kinds of causes and the explanation of the difficulty, in fact the impossibility of classifying mental disorders on any one basis—the etiological, the pathological, the psychological—is at once apparent. It would be just as sensible to try and force under one head all the diseases that might involve the kidney, including sarcoma and tuberculosis with the nephritides proper.

It is true that the symptoms of mental disorder tend to arrange themselves into groups, but the constancy of these groups is a very variable factor, and like the epileptologist who no longer speaks of epilepsy as a concrete entity but speaks rather of the epilepsies, so we are getting away from the idea of distinct, definite psychoses and are using such terms as the dementia paralytica group, the manic-depressive group, the hysteria group, etc.

These groups, the so-called clinical types, are not clean-cut entities but are only groups of symptoms which either seem to occur more frequently in combination or else have been more definitely and clearly seen because of the nature of that combination. In fact types as such may be said to be in the minority. The great mass of cases seen are combinations more or

less intermediate in character. The conception of types in order to be accurate must be from a broadly biological viewpoint. Types are like species. They have innumerable transition and intermediate forms. It is as if overlooking a vast though young forest. Here and there are certain trees which because of their size or prominent location stand out distinct from the others. These would at once be picked out by the observer as types, yet the forest as a whole is not composed of these but of the immense number of smaller trees among which these few stand out definitely, and a more detailed study of the majority of the trees of approximately the same size would reveal minor differences of structure; for example, in the form of leaf, thickness of bark, inclination of branches, color of flowers, etc., many of which might only serve to distinguish the individuals, while others would be of sufficient importance to constitute varieties, or even species.

Insanity, therefore, is not a disease; it is rather a class of disorders which tend to arrange themselves with greater or less distinctness into groups of reaction types. Its study is therefore primarily a study of function and must be conducted not in the autopsy room but in the psychological laboratory. And this study of disordered function will only reach its full fruition when the results of the detailed analysis of abnormal reaction types are correlated with the results of a study of the mental "make-up" of the individual before he becomes insane—in other words, a psycho-analytical study of character.

Perhaps this is best illustrated clinically when we consider any one of the etiological factors of insanity. Take for example alcohol. Now there are a number of psychoses that seem to occur almost solely under the influence of alcohol. Of the various so-called alcoholic psychoses one patient will develop delirium tremens, another acute hallucinosis, a third Korsakoff's psychosis. What conditions the special form of psychosis in each case we do not know. On the other hand certain patients as a result of alcohol develop entirely different psychoses, the alcohol perhaps conditioning the outbreak of an

attack of manic-depressive insanity leading to the break down of dementia precox or the development of paresis.

This study of character has, fortunately, begun to be appreciated and is already accumulating a considerable literature and leading to very suggestive results. We have for some time known very well, in a general way, the unbalanced character, the epileptic character, the hysterical character, and the unresistive character recognized so often in general medicine because of the abnormal reaction to febrile disturbances, easily developing delirium as a result of only a moderate fever, and while recent studies have outlined the differences in character as manifested by sex, and the study of the psychology of psychasthenia has given us an understanding of the psychasthenic character, we are only beginning to recognize those types that may later develop a psychosis. We perhaps have definite types of character which tend under appropriate conditions to develop the manic-depressive type of reaction while others tend to the development of deterioration types.

The individual is a biological unit and must be so considered in relation to other individuals, to society. If this is forgotten the perspective is lost. We no longer consider the end and aim of psychiatry either to find a diseased nerve cell or to make a hard and fast diagnosis of a given condition at a given time. If we are to understand the psychosis we must understand the individual, we must study not only his origin and development but his adjustment to conditions. We can not understand a psychosis by subjecting it to cross-section for the purpose of defining its content at a particular point, or by subjecting it to longitudinal section for the purpose of tracing the beginning and the end of symptoms. Such subsection to the narrow field of an optical section will not do—it must be studied as a life history. Our patients must be considered as individuals who under certain conditions have reacted in certain ways. The type of reaction can only reach its explanation in the type of person displaying it.

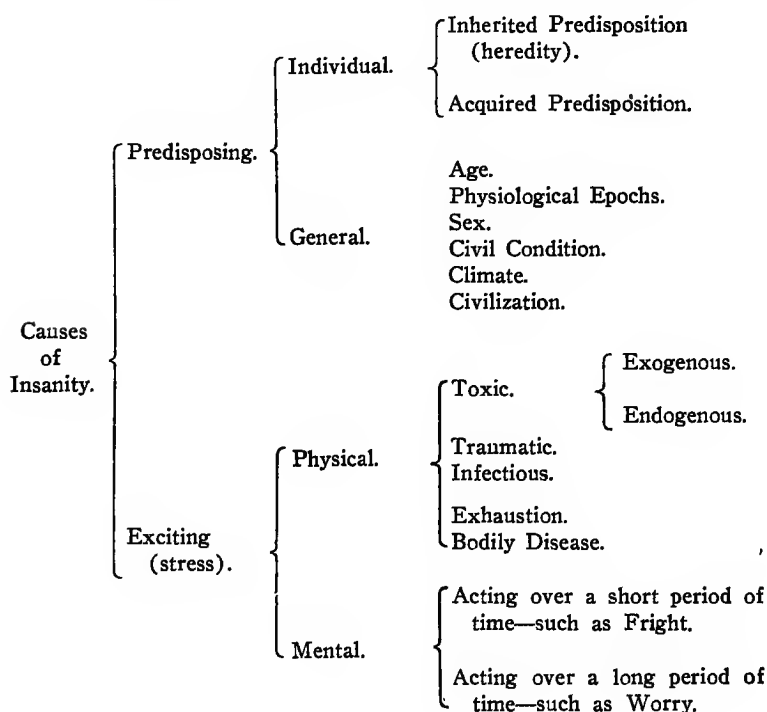
Without going further into details I will rest by giving the classification that will be followed in this work.

1. PARANOIA AND PARANOID STATES.
2. MANIC-DEPRESSIVE INSANITY.
3. PARESIS.
4. DEMENTIA PRECOX.
5. INVOLUTION MELANCHOLIA.
6. SENILE PSYCHOSES.
7. INFECTION-EXHAUSTION PSYCHOSES.
8. TOXIC PSYCHOSES.
9. PSYCHOSES ASSOCIATED WITH OTHER DISEASES.
10. BORDERLAND AND EPISODIC STATES.
11. IDIOCY AND IMBECILITY.

CHAPTER IV.

CAUSES OF MENTAL DISORDERS.

As in other departments of medicine, so here we find two classes of causes operative—*predisposing* and *exciting*. The predisposing causes are made up of those conditions existing within the individual and which render him liable to the development of mental disorder under favorable circumstances. The exciting causes are those circumstances or conditions which produce the actual attack of mental disturbance operating usually upon predisposed soil. The predisposing causes may



be likened to a train of gunpowder, the exciting causes to the match that fires it.

The predisposing causes are from their nature in the main inherited, although a predisposition to mental disease may be acquired, *i. e.*, by systematic poisoning (alcohol), the prolonged debilitation of disease (tuberculosis), etc. The exciting causes can all be classified under the general caption of stress, mental or physical, and comprise the various factors which are immediately causative of the outbreak of the attack. Our classification of causes would then be the following:

PREDISPOSING CAUSES.

Individual: *Inherited Predisposition.*—An inherited predisposition to insanity is found in from 30 to 90 per cent. of cases according to different authorities, while the average for all conditions has been estimated at from 60 to 70 per cent. But any one who is at all familiar with the collecting of statistics must know how impossible it is for them to fully represent the facts in such a matter.

If we will take up any annual report of an institution for the insane and turn to the table giving the causes of insanity in the several patients under treatment, we will find assigned such causes as these: "business anxiety," "death of mother," "loss of property," "disappointment in love," "domestic troubles," "excessive study," "political excitement." How many of us but have suffered at some time or other from some or perhaps all of these so-called causes of insanity? Certainly we have all had business worries; certainly we have all lost property at some time, otherwise our good fortune is phenomenal; certainly we have all been subject to political excitement many times, and all of us presumably have lost a dear friend or relative, perhaps a father or mother. Dr. Carlos F. McDonald says very forcibly on this subject, ". . . that substantially every individual at some time or other during his life is exposed, in many cases repeatedly, to many of the so-called exciting causes of insanity, both mental and physical, and yet,

despite this fact, we find that sanity is the rule—insanity the exception.”

In ascribing these causes what has been done is simply this: The particular set of conditions which happened to maintain at the time the patient was attacked with insanity have been tabulated as the causes of that attack, whereas the true cause was in all probability far removed from these which were in reality only accidental contemporaries. In reality the true underlying condition in all these cases for which such causes are assigned is the predisposition to insanity.

In other words, the normal mind, under the influence of stress, does not become deranged unless from the operation of traumatism, toxæmia, or extreme degrees of exhaustion and not even then with anything like the facility of the mind predisposed to disease by bad heredity. Ninety per cent. is in all probability not far from the truth as regards the number of cases of insanity presenting hereditary predisposition. In fact I should rather expect it to fall below the truth than that it were an exaggeration, for aside from certain cases produced by the causes mentioned above, I should expect it to enter as a factor in nearly every case.

In dealing with the subject of heredity, however, we must not forget that our ideas are of necessity largely founded upon theories, as biological science has not yet unfolded a sufficient number of facts to make it possible for us to tell just how much, in any individual case, must be attributed to the inherent qualities of the “germ plasm” and just how much to the influences of environment.

It is pretty well admitted among biologists that there is no sufficient warrant for the belief in the Lamarckian hypothesis of the inheritance of acquired characters. How, for example, could one possibly conceive that a special aptitude for mathematics, or the manual dexterity of the graver could be so impressed upon the sexual cells that these special traits would reappear in the offspring? The only thing we can conceive of as being inherited is the particular make-up of the individual that made the acquirement of these traits possible.

Although the sexual cells have not that intimate direct connection with the different parts of the body by means of nerve currents that would make it possible for a change occurring anywhere to be reflected in them, they are bathed in and nourished by the body fluids and we might expect that general conditions producing toxæmia might so affect them as in some way to impair their functions as shown in the resulting offspring.

Such appears to be the case, so that as a matter of fact we find not infrequently various debilitating and toxic conditions in the parents, the most common of which are probably tuberculosis, alcoholism, and syphilis. General conditions of this sort impair the germ plasm and produce defects in development as a result.

While, therefore, we not infrequently do find the same disease developing in the children that the parents suffered from—the heredity is *similar*—it happens more frequently that general conditions of ill health in the ascendants have so impaired the germ plasm as to produce conditions of instability which may show itself in various ways other than in reflecting the same disease—the hereditary is *dissimilar*.

Acquired Predisposition.—The two most important agents in bringing about an acquired predisposition to mental derangement are alcohol and syphilis, while tuberculosis from the prolonged toxic-exhaustive condition it brings about would probably come third. All of these causes, the first two especially, may by acting upon the normal brain bring about such changes as to predispose it to disease and thus predispose the individual to the development of insanity. It must not be forgotten, too, that the occurrence of one attack of mental disorder predisposes to subsequent attacks.

General: Age.—According to the Eleventh Census there is a gradual increase in the number of cases of insanity from the age of 10 to the age of 40. From 40 on there is a gradual decrease. The table given is very interesting and worth reproducing. It is as follows:

Age Period when Insanity Appeared.	1890.	1880.	Age Period when Insanity Appeared.	1890.	1900.
10-15 ¹	39	227	55-60	4,316	940
15-20	790	2,417	60-65	3,261	652
20-25	3,138	5,450	65-70	2,066	358
25-30	5,704	5,926	70-75	1,343	186
30-35	8,123	5,492	75-80	632	90
35-40	8,182	4,321	80-85	310	23
40-45	7,930	3,305	85-90	102	8
45-50	7,287	2,405	90-95	38	3
50-55	6,036	1,542	95 +	3	

Physiological Epochs.—The periods of life at which a latent tendency to insanity may crop out are the physiological epochs during which there are great changes going on in the general nutrition, physiological crises in fact. These physiological epochs are the periods of puberty, and adolescence, the puerperium, the climacterium and the senium.

Sex.—Although insanity is about equally divided between the sexes the specially dangerous periods in the female, the puerperium and the climacterium, being about balanced by the results of alcohol and syphilis and a more strenuous mental life in the male, yet the U. S. Census seems to show a tendency to a gradual increase in the percentage of males as shown by the following table:

Sex.	Per Cent. Distribution of					
	General Population.			Insane Enumeration in Hospitals.		
	1900.	1890.	1880.	December 31, 1903.	June 1, 1890.	June 1, 1880.
Both sexes.	100	100	100	100	100	100
Males.	51.1	51.2	50.9	52.3	51.8	50.4
Females.	48.9	48.8	49.1	47.7	48.2	49.6

Civil Condition.—The percentage of insanity is greater in the unmarried than in the married. The Census returns for all the insane in hospitals in 1904 show 50.1 per cent. to have been single, leaving the balance of 49.9 per cent. to be divided among married, widowed, divorced, and unknown.

¹ In 1880 this age period was 12 to 15 years.

Climate.—The only effect of climate is to supply conditions which make exhaustion and infection more liable. The climate itself has no direct effect. Malaria, yellow fever, and other diseases of tropical climates produce a condition of toxæmia and exhaustion favorable to the outcrop of mental diseases, while the extreme heat makes physical exertion more exhausting and the effects of alcohol are not so well borne.

Civilization.—Insanity is most prevalent among the most highly civilized. In the process of evolution the struggle for existence has changed from a physical to a mental struggle and as it is the organ most used that is most open to the dangers of accident and disease so we find the brain giving way more frequently as the stresses of life become more and more mental rather than physical. Thus we find not only that insanity is most prevalent among the most highly civilized, but among these it is found with greatest frequency in the immense, congested centers of population where civilization has reached its greatest development and the struggle for existence become most severe.

EXCITING CAUSES.

Predisposition alone, however, is usually not sufficient to produce insanity, especially is this true of an acquired predisposition such as that induced by alcohol, syphilis, and tuberculosis without the element of mental stress added. This is well illustrated by the condition of the American Indian. Sorely afflicted as he is by the diseases and vices of civilization, his tendency is to an outdoor life, and as his land has disappeared and he has become physically incapacitated, the government has supported him, so that his sufferings have been in the main physical and not mental. Careless, slovenly, and improvident, he does not know much of worry for the morrow, and so we rarely find insanity in his race.

Physical: Toxic.—The various poisons which may act as exciting causes of insanity may be either *exogenous*—coming from without—or *endogenous*—originating within the body.

Of the exogenous variety alcohol is perhaps the most prominent. It is probably responsible for from fifteen to twenty per cent. of cases in males. Alcohol and syphilis together, if we include paresis as a syphilitic disease, are responsible for fully twenty per cent. of the insanity in males at least. Some of the other poisons that belong in this group are opium (morphine), cocaine, atropine and its isomers, lead and mercury, while the toxins of various diseases such as syphilis, tuberculosis, typhoid, yellow fever, malaria, and grippe frequently act as exciting causes. Of the endogenous poisons the most important are those which originate from the gastro-intestinal tract, and as a result of chronic nephritis. The mental disorders which accompany such diseases as myxedema, exophthalmic goitre, and acromegaly probably belong here also.

Traumatic.—Direct injuries to the head, such as bullet wounds and fracture, are of course not infrequently the immediate cause of mental disorder, while more indirect injuries, such as concussion from falls, transmitted perhaps through the spine, may also be the starting point of insanity.

Exhaustion.—Exhaustion from prolonged physical and mental strain, from chronic diseases, or as the result of acute conditions following fevers, or the result of sudden loss of considerable blood, may be prominent exciting causes. It is to be remembered in this connection that exhaustion, especially physical, results in and may in large part produce its effects by the development of toxic substances, as for instance from the breaking down of muscle.

Bodily Diseases.—Bodily diseases other than those developing poisons may act as causes by disturbances of circulation, reflex irritation, disturbances of nutrition and exhaustion. Such are cardiac diseases with broken compensation, the reflex irritation from intestinal parasites, and the various nervous diseases which often have mental symptoms connected with them, such as epilepsy, chorea, hysteria.

Mental.—Any severe mental stress may act as an exciting cause of insanity. A sudden emotional shock, such as fright,

or the horror resulting from the terrible sights of the wounded and dying in a railroad wreck, may induce an outbreak of mental disorder, while the less acute conditions of worry and anxiety, usually acting over a considerable period of time, may also be etiological factors in the development of a psychosis.

CHAPTER V.

TREATMENT.

In the treatment of the insane the general principles of therapeutics are of course applicable as in other departments of medicine. Disorders of the various organs are found among the insane as among the sane and require the same sort of treatment. It is only intended in this chapter to devote a few words to the discussion of the therapeutics of insanity in so far as it differs from therapeutics as ordinarily resorted to, for there are conditions commonly met with among the insane that require treatment that are rare or absent among the sane. Excitement, agitation and violence, for example, may occur in the delirium of fever but is of short duration—transitory—while in the realm of mental disease this condition may persist for weeks and require treatment. Only certain general considerations will be taken up here, while special matters pertaining to the different psychoses will be discussed in their appropriate places.

Hydrotherapy.—It is impracticable here to take up a full discussion of this subject. The student should consult special works for detailed information. It may be said, however, that the various forms of hydrotherapeutic devices form one of the more valuable of the recent additions to the means of treating insanity. This is true especially of the treatment of the excitements. In the absence of hydrotherapy the only way to deal with these cases is by manual or mechanical restraint, or by chemical restraint. All of these means are undesirable if avoidable. With a well equipped hydrotherapeutic outfit, however, their use may be reduced to a minimum.

Such an equipment would provide for the giving of hot baths—local or general: full baths, simple or medicated, at

various temperatures: needle, rain, fan, spray, jet, spinal and Scotch douches, regulated as to temperature and pressure: wet packs, hot or cold: sitz baths, etc.

These various measures have eliminating, stimulating, or sedative effects, according to circumstances. For toxic states, such as chronic alcoholism, the stimulating effect of the hot air with profuse sweating, followed by the stimulating effects of the Scotch douche, are very valuable, while in excited cases some form of wet pack gives better results. In applying the wet pack the wet sheet is put on first after being sufficiently wrung out, usually of cold water, so as not to drip, carefully wrapped about the patient and tucked in, then a dry blanket is rolled about the patient and also carefully tucked in at the arms, made snug at the neck, and turned in at the foot, so that no draft can strike any portion of the wet body and neither arm nor leg can be voluntarily exposed by the patient. When skillfully applied it affords a sufficient restraint to the patient until the sedative effect is manifest. Excited cases treated in this way with a cold cloth or ice cap to the head often quiet down surprisingly and not infrequently go to sleep. The great advantage of this method is that it can be used in the home.

The warm bath of a few minutes duration is also a very valuable sedative that can be used at home, but if used care should be taken to watch the heart if the patient is weak and when the bath is over the patient should be rapidly wiped off, wrapped up in blankets and put to bed without any exposure to drafts or cooling.

Continuous Bath.—The continuous bath is used for the most part in the treatment of the active and excited cases. The tub is made somewhat longer than usual to accommodate the patient at full length comfortably. The patient is placed in the tub (if desired he may rest in a canvas hammock attached to the sides), the water being kept by means of a regulating apparatus at about 95° F. The bath may be prolonged for several hours, in fact the patient may spend all day in the bath. In Germany, where this form of treatment originated, the

patients are often kept continuously in the bath not only for hours but for days and weeks at a time, eating and sleeping there. It is remarkable that many of these disturbed cases seem after a time to like the warm sedative influence of the water, and I have seen a patient cry to go back in the tub after she had been taken out.

Another great advantage of the continuous bath is the good effect the water has upon the skin. The warm water keeps it soft and active and the tendency which exists in so many cases, particularly of paresis, to the development of bed-sores is largely prevented; the patient resting in a medium of considerably higher specific gravity than the air a large proportion of the pressure is thus removed from the skin, so alleviating one of the most prominent causes.

Refusal of Food.—This is one of the most annoying symptoms met with and yet is quite common among the depressed insane. It frequently has a serious influence upon the health of the patient, so it becomes of the highest importance to know how to meet it.

If the patient be in good physical condition it is wise to let him go for a time without food in the hope that the cravings of hunger will force him to eat, as once artificial feeding is begun it is liable to have to be continued. A strong, vigorous patient may be permitted to fast thus for as long as three days, while on the other hand, it frequently happens that when the patient is first seen he has already been temporized with so long that he is in such condition as to require feeding at once.

There are many methods of artificial feeding, but the method of tube-feeding is the only one that merits much attention. This method may be employed either by the nasal or the esophageal route.

The esophageal route is always to be preferred. The patient is fed sitting up in a firmly constructed, straight-backed arm-chair, unless a greatly enfeebled condition renders the position on the back imperative. The operator stands behind and gently forces the mouth open with a soft wooden wedge intro-

duced on the left side, then with the patient's head held under his left arm he holds the wedge with his left hand, which is steadied by placing his little finger under the patient's chin. The patient's head thus secured, the arms and legs held by nurses, if necessary, the esophageal tube is dipped in the milk to be given and passed. A funnel, preferably vulcanized rubber, is now inserted in the tube by a nurse and the food slowly poured in.

The same position is assumed for passing the nasal tube. The tube used may be an ordinary male catheter. Before attempting to pass it it is well to examine the nose, particularly for polypi and deflected septum, and choose the side which will present the least obstruction. The tube then being dipped in the milk to lubricate it is passed along the floor of the nostril and down into the esophagus. Care must be taken to see that it does not enter the larynx. If it should, the usual signs are severe strangling, coughing and cyanosis, while the air may be heard making a rushing sound as it passes in and out of the tube. It must not be forgotten, however, that in some cases, particularly in paresis, there is more or less anesthesia of the larynx and these signs may be in large measure absent. It is well, therefore, after the tube is passed to wait a few moments and see if the patient does respire through it, not forgetting that immediately after it first enters the esophagus a little rush of gas may escape through it from the stomach. The tube being passed, the food may be introduced through a funnel by gravity, as with the esophageal tube, but as this is a very slow process, owing to the small calibre of the tube, it is more satisfactory to attach a Davidson syringe, first filling it with the milk so as not to inject air, and then gradually pump the food through this.

In withdrawing the tube it should be pinched tightly to prevent a leakage as the end passes over the larynx.

The nasal tube is preferable particularly with those patients who resist very actively and who have a good set of teeth that the introduction of the wedge may injure. It is contra-

indicated in cases of nasal disease and obstruction, while it is best to avoid its use if possible when there is anesthesia of the larynx.

The esophageal tube should be avoided when there is disease of the esophagus or cardia and in some cases of feeble heart action when the nasal tube can be passed with less commotion.

The usual mixture for feeding is a pint to a pint and a half of milk to which is added two eggs. In addition there may be added beef juices or other forms of liquid food and various medicines, particularly cathartics and hypnotics with the evening feeding.

Feeding should be done at least twice daily—morning and evening. If the food is not well digested oftener and in smaller amounts.

Medication.—As the various insanities are for the most part relatively chronic diseases, great care should be used in prescribing opium or any of its alkaloids, as otherwise a serious addiction may be encouraged.

One of the most frequent conditions which has to be met with by drugs is *insomnia*. This is a symptom in many of the psychoses and often over a considerable period of time. Of the various hypnotics *paraldehyde* is one of the best, but of course is greatly limited in its use because of its very disagreeable odor and taste. *Sulfonal* is an excellent hypnotic, but somewhat slow in its action. It is best given at supper time and then will be active about bed time. It may be given to patients who refuse medicine by mixing with apple sauce, for example, as it has little taste. Its prolonged use should be avoided, as poisoning may occur with hematorporphyrinuria. *Trional* is equally as good a hypnotic and acts more promptly. In some cases in which the patient wakes up in the small hours of the morning a mixture of sulfonal and trional may be given, about 15 grs. each, at bed time. The trional will act the early part of the night and the sulfonal the latter.

Chloralamid is a similar drug and may be given in a pleasant elixir, while in some more troublesome cases *chloral* may be indicated.

In the use of hypnotics care should be taken to interrupt the administration from time to time to see if normal sleep will not supervene and also to change from one to the other to prevent cumulative effects or addiction. It is of course understood that hypnotics should be resorted to only when other means have failed.

In the acutely excited conditions requiring sedatives about the only drugs that are efficient are the alkaloids of hyoscyamus, given hypodermically. Great care should be exercised in using this drug, as the various preparations are somewhat uncertain. The chemically pure alkaloids have not been so successful in my hands as the amorphous sulphate of hyoscyamine (Merck), which contains a mixture of the alkaloids. This drug may be given hypodermically in doses as high of 1/10 gr., or in a strong, vigorous person without cardiovascular disease, 1/8 gr. Its action seems to be assisted by 3 or 4 gtts. of Magendie's solution. It must be remembered that the pure alkaloids must not be administered in any such doses—usually not over 1/100–1/50 gr. Too small doses of the drug may not quiet the patient at all, but on the other hand only produce a degree of belladonna delirium.

Here, as with the hypnotics, drugs should not be used until other means have failed.

In regard to the whole subject of the giving of drugs, too much emphasis cannot be placed on the caution to avoid over-medication. It is not an uncommon thing to see patients admitted into a hospital suffering from the toxic effects of drugs, usually bromides and chloral. In this condition they not only suffer the deleterious effects of the toxemia, but the symptoms of the disease from which they are suffering may be hopelessly clouded.

CHAPTER VI.

GENERAL SYMPTOMATOLOGY.

In describing the general symptoms of insanity the scheme of the several mental processes outlined in the preceding chapters will be adhered to and the principal disorders of each taken

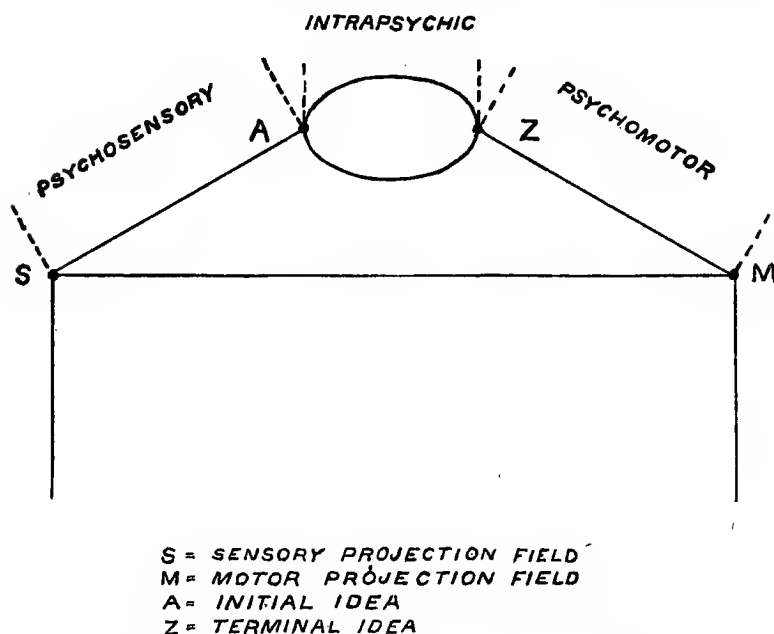


FIG. 2. Showing subdivisions of mental processes.

up in turn. Certain symptoms, however, associated more particularly with special psychoses, will be left and discussed in the chapter in which that particular psychosis is described.

Before going on to the discussion of the special symptoms it may be well first to call attention to a slight modification of

the diagram used previously to illustrate the mental processes for the purpose of illustrating some general principles involved. (See Fig. 2.)

In this diagram everything from *S* to *M*, inclusive, is included in consciousness, the term used to denote the sum total of mental life. This is indicated by the term used: for example, psychomotor would refer to motor acts originating in consciousness. A reflex act would thus not be included—it is not a psychomotor act, taking place entirely without the realm of consciousness. Taking then this tripartite division of consciousness, we may follow Wernicke and say that in each of the three territories there may be three types of disorder, as follows:

<i>Psychosensory.</i>	<i>Intrapsychic.</i>	<i>Psychomotor.</i>
Anesthesia.	Afunction.	Akinesis.
Hyperesthesia.	Hyperfunction.	Hyperkinesis.
Paresthesia.	Parafunction.	Parakinesis.

Bearing these general principles in mind, we will proceed now to the discussion of the special symptoms.

DISORDERS OF PERCEPTION.

Illusions.—An illusion is an inexact, or inaccurate, perception. The information conveyed to the mind by the sense organ is misinterpreted, so that the source of the sensory impressions in the environment is not appreciated at its true value. A strap lying on the floor may be perceived as a snake, the sighing of the wind may be perceived as the whispering of a human voice, a bad taste in the mouth may be perceived as poison, and so on throughout the different sensory realms. The distinguishing thing about an illusion is that an actual something in the environment is perceived but the perception is not a correct one and conveys false information to the mind.

Hallucinations.—An hallucination, on the other hand, is generally conceived to be a perception without sensory foundation in the environment. A snake is seen on the floor where

there is nothing which could be mistaken for a snake, the floor is bare; human voices are heard where there are actually no sounds in the environment which could be interpreted as such; poison is tasted where there has been nothing in the food or mouth which has given origin to the taste. The distinguishing feature of an hallucination then is a perception without there being anything in the environment to perceive.

Recent studies, however, have made it highly probable that a large number of what have been supposed to be hallucinations are in reality dependent upon pathological, or even at times physiological processes occurring in the sensory end organs, so that, with reference to the eye and ear, for example, they might be said to be of entoptic or entotic, origin respectively.

So far, however, as any given erroneous perception is concerned it really matters little from the point of view as to its significance as a symptom of mental disease, whether it be classed as an illusion or an hallucination. The mental process in both instances is identical. In practical use the two are not often distinguished, but false perceptions are generally spoken of as hallucinations and as the mental process is the same in both hallucination and illusion the necessity for their distinction does not arise and the use of the term hallucination serves the purpose very well.

Using the term hallucination then to include the phenomena of illusion, there are a number of considerations to take up regarding their different forms and their manifestations in the various sensory areas.

Pseudo-hallucinations. — Pseudo-hallucinations, also called *psychic* and *apperception hallucinations*, seem to occupy a position midway between imagination and the fully developed form of hallucination. The patient does not have the same conviction of their external reality and may even appreciate their subjective nature while still believing them to be brought about by external agencies, *i. e.*, God or his enemies—as in the case cited by Kandinsky of the patient who had a pseudo-hallucina-

tion of a lion which appeared to him and laid his forepaws on his shoulder. The patient appreciated that he saw the lion only with his mind's eye and was not afraid as he otherwise would have been, and interpreted the vision as signifying his allegiance to England.

Pseudo-hallucination differs from imagination in the fact that the sensory elements have a greater objectivity and occur independently of the volition of the subject. They, in general, differ from hallucinations in having somewhat less objective reality and further are more often in consistent harmony with the content of consciousness—do not obtrude themselves suddenly and unexpectedly into the field of consciousness as hallucinations often do, particularly auditory hallucinations. They not infrequently involve two or more sensory areas and constitute an element in the so-called dream states.

Hypnagogic Hallucinations.—These are hallucinations which occur in the intermediate state between sleeping and waking. Their principal importance for us lies in the fact that they may readily be mistaken for hallucinations occurring in the waking state. If the possibility of confusion is kept in mind the differentiation can usually be made without trouble. The following case illustrates this condition and the principles of differentiation:

The patient, a middle-aged man, claims to have numerous visions. He has been a spiritualist for years and often sees visions of deceased persons. He describes one occurrence when he had a vision as follows: "I went into the cellarway to fill my lamp, and after filling the lamp I saw the road from Catherine Holliday's north to the county line. There was no significance attached to that, but I sat there and presently I saw a hand; a chubby kind of fleshy hand and the finger nail was grown down over the end of the front finger a little over a quarter of an inch wide, but it grew clear over the end of the finger. I said that is a funny finger, and I sat a second more and I heard the words, Ezra Perkins, and I says, 'why, I know Ezra Perkins.' Presently all was changed and I saw a house,

door opening to the east. In one room was a ground floor and a wood bench; then I saw a small room with a painted floor, painted yellow, a small bedstead with no banisters or curtains around; on the edge of the bed I saw a small manila cord or rope. Then I looked as though I were passing by buildings and I saw a house. On the north part of the building the blinds seemed to be red and dark; the south part were green and there were flowers in the windows. Then I saw Hiram Brinsmead apparently coming out to the road. Then I saw a small boy with light hair. Then I saw the interior of a room on the east side of the house, a lady reclining on the bed bolstered up on some pillows. She lay quartering across the bed from the southeast to northwest. She had a pink dress on, made plain with the exception of a ruffle or goring piece around the sleeves and the same around the skirt bound around with white, and was reading the Bible.

"That is all there is of that only it is imperfect, but it is worded just as I can recall it."

This description bears on its face certain evidences of the dream state. The sudden shifting of the scene and the following of one event upon another without any apparent reason for the association is characteristic of dreams. Further than this, it is to be noted that the surroundings were favorable to sleep. The percipient starts to fill his lamp during the latter part of the afternoon, he sits down on the landing after it is done (this would indicate that he must have been tired). He is sitting in this position when the visions appear. He must have sat there, at his own estimation, for about twenty minutes, for when he arose he saw it was just getting dark and it was quite light when he sat down. It is also noteworthy in this case that descriptions of visions taken at considerable intervals vary considerably and this variation is most marked in the direction of forgetfulness, the later descriptions showing a tendency to omit many of the facts contained in the former, although there is also a tendency to include certain other instances not at first mentioned. This latter tendency is, how-

ever, not so marked. The former tendency is quite characteristic of dreams, as any one can testify to his own satisfaction who has ever had occasion to recall a dream. A dream which on awakening in the morning may be quite well remembered, is in the course of a few days or even hours quite hazy in its outlines, if no efforts have been made in the meantime to recall it. The latter tendency is equally characteristic of amnesic states generally.

In addition to the above reason for considering these visions as having occurred in a dream state of consciousness, the percipient states that at one time, while describing these same visions, that after they had passed he arose and stretched himself, a very common evidence of having been asleep. He denied this, however, afterwards. He also describes one other vision after which he had a "sort of tired feeling" for a minute or two which, however, soon passed away.

Auditory Hallucinations.—When these are elementary, that is, are largely sensory in character with few associations, they are known as *akoasms*. Such would be simple sounds, as buzzing, crackling, ringing, and the like. The more complicated hallucinations which are conceived by the patient to be "voices"—verbal auditory hallucinations—are known as *phonemes*.

The "voices" say pleasant or unpleasant things but usually the character of the remarks are consistent throughout and in harmony with the general mental condition of the patient. They may be heard in both ears or in only one ear and be of any timbre. Rarely different voices are heard in the two ears, as in one of my patients who heard Christ talking to her in her right ear and the Devil in her left. The "voices" may be located externally or on the contrary be heard coming from different parts of the body, *i. e.*, the "epigastric voice." Sometimes the patient, when closely questioned, will say that they do not hear any sound, any spoken word, but as described by one of my hallucinated cases, "it was more as if they conversed with her directly through her mind."

More obscure conditions are those in which the patient believes that his thoughts become audible, that he can hear his thoughts before he can speak them.

In patients suffering from auditory hallucinations, ear disease resulting in various degrees of deafness is common.

Visual Hallucinations.—Elementary hallucinations, in which the sensory element is maximal and the association element minimal—*photomata*—occur as flashes of light, sparks, colors, and the like. All degrees of elaboration occur from these simple conditions to the most complex visions. Hallucinations of sight are more apt to be pleasant than those of hearing, but they too are frequently disagreeable, often terrifying, as visions of hell and of all sorts of noxious creatures so common in the various deliria. Visual hallucinations occur not infrequently in the blind.

Hallucinations of Taste and Smell.—Hallucinations of these two senses are quite apt to be associated and are almost uniformly disagreeable, as in one of my cases, a middle-aged woman, who claimed she smelled and tasted the blood of people who were killed in the hospital. The blood was smelled when the meals were being cooked and tasted at meal time in the food. Poison is frequently complained of as being tasted in the food and noxious and poisonous vapors are often smelled.

Haptic Hallucinations.—The various special senses located in the skin—touch, pain, heat and cold—may be the subject of hallucinations. The most common are indefinite disturbances of the nature of paresthesia, hallucinations of animals crawling over the skin (deliria), or under the skin, particularly at the finger tips (cocainism). Hallucinations of touch are not uncommon, but are usually associated with other disorders of perception.

Hallucinations of the Organic Sensations.—The most common of these are peculiar and often indescribable sensations coming from the internal organs and giving rise to such beliefs as: the bones are broken, the brain dried up, an immense tape-

worm is coiled up in the lungs, the bowels are stopped up, there is no stomach, and the like.

Disturbances in the realm of the sexual sensations also belong under this head and lead to such ideas in women as that they are violated while they sleep, and in men that their organs are abused and their semen drawn off.

Kinesthetic or Motor Hallucinations.—These are sensations of movement of some sort. The sensations from muscles, joints and tendons may be involved, as may also the static sense, owing to labyrinthine disturbance. Disturbances in these sensory areas give rise to hallucinations leading to the belief that the body has undergone a change in position. One patient complained that men came to her room nights, carried her away, subjected her to improper and indecent treatment and then brought her back.

A more common motor hallucination is the verbal motor hallucination. Patients who complain that their thoughts are audible may be brought to this belief by feeling their lips move as in speech, and inferring that they are involuntarily speaking or being made to speak.

Reflex Hallucinations.—This variety of hallucination is based upon secondary sensations which are sensations arising in one sensory field when the stimulus has been applied in another sensory field. Thus stimulation of the eye may produce sensations of sound, stimulation of the taste bulbs may produce odors, etc., etc. The following cases illustrate these conditions:

Mrs. J., æt. 25 years, in good general health, complains of naso-pharyngeal catarrh and tickling in throat, causing cough. She has deflected septum and enlarged lingual tonsils. Operation upon these and subsequent application of ordinary styptics have been accompanied by the odor of almonds located on the side of the nose.

Mrs. B., æt. 28 years, complains of having a bad odor in her breath which seems most acute to her in her nose. Her friends tell her that they cannot detect any unpleasant odor.

She seeks special medical advice because she appreciates this odor and suspects friends of being too courteous to tell her of it. She is in good general health with slight hacking cough and tendency to clear throat.

Examination shows the nose to be in normal condition throughout, the nasal vaults are unusually accessible, thus leaving no doubt as to their healthy condition. Pharynx and larynx normal.

The nostrils were alternately plugged, the lips closed and air from each nostril and the mouth tested separately. Not the slightest odor could be detected, though she appreciated it herself as being very disagreeable. Two small lingual tonsils were more closely examined and upon the posterior side of each a minute morsel of food was found. This was removed, but on examination was found to have absolutely no odor. It had not undergone sufficient change to disguise its character—it was bread. Shortly after its removal the bad odor grew less. Both tonsils were at once removed and the patient sent home. At the end of two days all odor had disappeared. At the end of four days there was still no odor, but it was induced by touching the neighborhood of the tonsils by a small pledget of cotton carrying a weak solution of citric acid. At another time it was induced by a very weak faradic current. The odor had not reappeared at the end of six weeks except by stimulating the taste goblets, and the patient was entirely relieved of the hacking cough.

This latter case was truly hallucinated by a secondary sensation, although she was not insane. It can readily be seen, however, how such a phenomenon occurring in a predisposed individual or in one already over the border line might soon form the focus of well-marked persecutory delusions.

The phenomena of secondary sensations, the so-called sound photisms, light phonisms, pain photisms, etc., have been known for a long time and are not particularly infrequent. Bleuler and Lehmann found them present in one form or another in seventy-six persons out of a total of five hundred and ninety-

six, *i. e.*, twelve and one half per cent. In most all of these cases, however, that have come to my attention, the primary and secondary perceptions are both present in consciousness, and the patient usually has not serious difficulty in distinguishing the false perception.

The following case, however, will illustrate how these secondary sensations may become true hallucinations :

D. C., a young woman admitted to the hospital with an acute psychosis of the confusional type with dream-like hallucinations, both visual and auditory. She saw all sorts of visual images, processions of soldiers and the like, and also heard voices. After recovery said that the figures she saw were in motion and the principal direction of their motion was downward, so that she had to strain to keep them up in the visual field; also saw patches of light which moved by preference to the right.

Examination shows vision 20-20 for both eyes, with slight astigmatism and slight photophobia, with somewhat abnormally red retinal reflex. Septum slightly deflected to left into middle meatus. Right middle turbinated, is bulbous and impinging on septum. There is a sub-acute catarrhal naso-pharyngitis, probably following diphtheria, which she has had three times. Ears show slight retraction of drum membrane with slightly shortened cone of light in each side.

Stimulation of the retina by having patient look at light of an Argand burner produced sound as of ringing bells, which lasted forty-two seconds after the light was turned off and eyes shut. In trying this experiment again the sound developed in twenty-seven seconds after the stimulus was applied, and had ceased in twenty-two seconds after it was withdrawn.

In this case the motions of the visions would indicate that they were due to *muscæ volitantes*. Particularly is this indicated by the straining effect required to keep the images within the visual field. There is present, however, a well-marked catarrhal condition of the pharynx, with abnormalities of the septum and right middle turbinated which have resulted

in a moderate grade of middle ear disease. There are also present on experimentation light phonisms.

The sensory falsifications probably took their origin in the extremely sensitive eye from the misinterpretation of floating bodies in the vitreous, the patient seeing these bodies against the light walls and ceiling of the room as she lay upon her back. The constant stimulation of these sensitive eyes brought about the light phonisms which were interpreted as voices, the auditory apparatus being in an especially susceptible state, due to the summation of stimuli from the abnormal end organ.

Many kinds of secondary sensations have been described, any one of which may quite possibly give rise in a disordered mind to hallucinations, thus not only sound photisms, light phonisms and similar combinations in the regions of the special senses are known, but the more obscure region of the *cœnes-thesis* is sometimes involved, and Gruber has described colored temperature, colored movement, colored resistance, movement hearing, temperature hearing, resistance hearing and many other combinations equally complicated.

Clouding of Consciousness.—The process of perception, as we have seen, is dependent upon sensations coming from without, which, however, must be of sufficient strength to force their way into consciousness and wake up, as it were, the remains of former sensations with which they become associated. If sensory stimuli have not this strength they may be said to be *inadequate*. We are constantly beset on all sides by such inadequate stimuli. The presence of my clothes on the different parts of my body ordinarily cause no appreciable sensations and thus give rise to no perceptions. The many trifling noises going on about me while I am absorbed in writing these lines is not heard. The strength of the several sensory stimuli is not sufficient to cross the *threshold of consciousness*, their *threshold value*, as it is called, is too low to result in perception. In various diseases and conditions the threshold value of sensations is greatly altered. This is very marked in certain of the deliria, for example, delirium tremens.

In this disease we find the patient wholly occupied with his terrifying visions and quite oblivious to the outside world of realities. Loud sounds fail to attract his attention, the nurse comes and goes without interrupting the course of his delirium. Sensory stimuli of ordinary strength, or even more than ordinary strength, fail to cross the threshold of his consciousness and cause perception. If, however, the patient be taken firmly by the shoulders and held or even mildly shaken while a question is practically yelled at him, we may find that he will give a perfectly lucid and correct answer. The strength of the sensations has been sufficiently increased, the resistance has been broken down, perception takes place.

This condition of clouding of consciousness may exist in any degree, from a scarcely noticeable departure from clear consciousness to actual coma, and as we can readily see must be the cause of very imperfect perceptions of the environment. Ordinary stimuli are not appreciated at all, while those that have sufficient force usually only give rise to perceptions for the moment and are never adequately assimilated. Thus we find this condition prominently in evidence in the various deliria, where it is usually associated with disturbed affects, disorders of the train of thought, and hallucinations.

This can perhaps be better understood if we will study some of the characteristics of consciousness at any given moment. At such a moment there are numerous sensory stimuli which have forced themselves over the threshold of consciousness, and, as it were, are contending for supremacy—for recognition. All, however, cannot be equally clearly recognized, so it comes that one arouses clear perception while the others are only faintly perceived. While I am writing these words the word I am at the moment penning is perceived clearly, while the other words, the books lying about me on the table, the striking of the clock in the adjoining room, and many other sensations are only indefinitely, hazily perceived. The most clearly perceived sensory stimuli are said to occupy the focal point of consciousness, while the other sensations have only a

marginal value. This can be better understood by reference to Fig. 3—where the particular moment of consciousness is represented by a wave—*wave of consciousness*. The apex of the wave would then be the focal point of clearest perception, the base of the wave the threshold of consciousness and sensations crossing this threshold can be seen to have any degree of clearness as they approach the focal point. The height they reach on the wave would then be a measure of their intensity for that particular moment of consciousness.

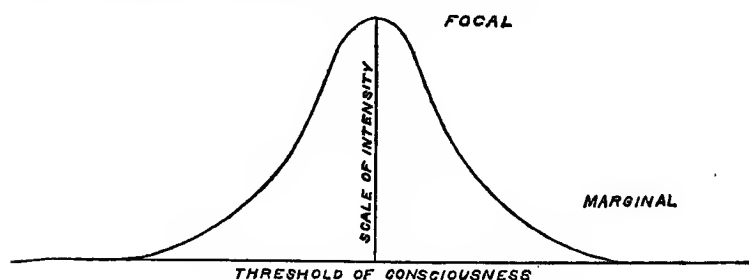


FIG. 3. A wave of consciousness.

Dream States.—This term is applied to certain conditions because of the resemblance they have to conditions of dream consciousness. The mind is occupied by numerous dreamy ideas, and usually also by multiform hallucinations which may take the form of visions producing the state of ecstasy. Hallucinations often occur in more than one of the sensory territories contemporaneously, but when this is the case they harmonize and are consistent with one another. For example, the patient who is terrified at the flames she sees near her bed, feels also their heat. Clouding may be present, the threshold value of sensations being raised so that no impressions of ordinary strength reach consciousness, the result being that the patient may be quite oblivious of his surroundings. Unlike the normal dream state, however, psycho-motor reactions occur corresponding to the content of consciousness.

Disorientation.—Orientation implies the correct apprehending of the environment, and one is said to be fully oriented when they understand their own position and relation with reference to the different aspects of their environment.. These aspects are three, viz: temporal, spatial and personal. *Temporal orientation*, then, would imply correct answers to such questions as, in what year were you born? what year is this? what day is this? *Spatial orientation* would imply correct answers to, what city do you live in? on what street? *Personal orientation* would imply a correct knowledge of who the individuals were with whom the patient came in daily contact, their official positions, their names, etc. Disorientation is the reverse of this condition and implies a lack of apprehension of these three aspects of the environment either singly or together.

DISORDERS OF THE CONTENT OF THOUGHT.

Delusion.—A delusion is a false belief, but as such is not necessarily evidence of insanity. Many false beliefs have no pathological significance whatever. A man may believe that to-day is Thursday when in fact it is Friday. That is a false belief while it lasts, but has only the significance of a mistake. The belief of certain savages that dreams represent the wanderings of their disembodied spirit we know to be false but not an evidence of mental disease. False beliefs or delusions, then, may be either sane or insane, and it is for us to endeavor to distinguish what constitutes a belief first as false and then, as such, what characterizes it as insane. There are three main characteristics of insane delusions in general. First: they are as a rule very evidently not true to facts, highly improbable, even manifestly impossible often to the extent of being bizarre. Such, for instance, are the delusions of great wealth, of royal lineage, and those of a certain class of patients who believe that they have no stomach, no brains, even that they have no head. Second: they cannot be corrected by an appeal to reason; not originating in experience they cannot be corrected by an appeal to experience. It is impossible to argue the

patient out of his insane beliefs. Third: they are out of harmony with the individual's education and surroundings. The sick Fijian lying upon his back and crying for his soul to come back to him is but exemplifying the belief of the race that sickness is due to the soul, or a part of it, leaving the body. Should we find a modern American, who had had the usual public school advantages, acting thus we would be justified in supposing him unbalanced.

It sometimes happens, however, that a false belief does not show any of these characteristics and yet may be an insane delusion. A woman who says her husband is untrue to her has not voiced a belief which has on its face any evidences of impossibility, and with no knowledge of the facts it cannot even be said to be improbable, and while not susceptible to the test by argument, it is certainly not out of harmony with the individual's education and surroundings. In such cases it becomes important to study the origin of the belief, to find out upon what sort of foundation it is reared. If we find that it resulted from the patient having awakened on several occasions during the night and found her husband's legs cold, and having reasoned from this that he had been out of bed to keep an appointment with his paramour in an adjoining room we will at once have no difficulty in stamping the delusion as insane because of being founded upon and constructed of ideas which do not logically or reasonably lead to the conclusions reached.

Delusions may be classified for our purpose into *fixed* and *changeable*, *systematized* and *unsystematized*.

A *fixed delusion* is one which seems to be firmly imbedded in the mind and is continuously adhered to by the patient, while *changeable delusions* are constantly changing and giving place one to another.

An *unsystematized delusion* does not enter into organic combinations with the other facts of consciousness, but stands apart and seems not to have been assimilated. While it may be fixed, it exercises no special control over the patient's conduct;

he seems to rest with its statement alone unable to substantiate his position by cogent argument or example. A patient who believes that all the bones in his body are broken, but nevertheless goes about his affairs as usual, has an unsystematized delusion.

A *systematized delusion*, on the other hand, is not only assimilated and associated with the other facts of conscious experience but forms a motive power for conduct. It is supported by reasons, by arguments, and by appeals to experience, it is acted upon as if it were an actual fact, and finally it may so reach out its influence by association with all the conscious experiences of the individual that the whole life of the patient is centered about and becomes secondary to it. The patient with a systematized delusion of persecution regulates his whole life in order to avoid his persecutors. The food is carefully tasted for poison and perhaps discarded, the bed he sleeps in must be insulated to prevent electric currents being applied to him while he sleeps, the key-hole and all cracks stopped up so that noxious vapors cannot be injected through them. If the patient is asked for an explanation of this conduct he is ready with interminable reasons and appeals to experience while his arguments are woven together with much ingenuity and no little logic. His delusion is systematized.

A further classification of delusions is based upon Wernicke's classification of concepts. It is a very valuable and practical one from a clinical standpoint. Wernicke classifies concepts as to whether they relate to the outside world, including other persons; whether they relate to the individual's own personality, or whether they relate to the individual's own body and speaks of the psychoses which involve these three orders of concepts respectively as *allopsychoses*, *autopsychoses*, or *somatopsychoses*. * A patient with a delusion of persecution would be suffering from a disturbance of his allopsychic consciousness; if he had a delusion that he had committed the unpardonable sin his autopsychic consciousness would be involved, and finally if he believed his intestines to be stopped

up, the disorder would be in his somatopsychic consciousness. It is quite possible, even common, to have combinations of these varieties, and indeed all of them in the same patient, so the patient might be said to be suffering from an allo-auto-somatopsychosis.

Hyper-quantivalent Ideas.—In speaking of ideas we use the term *quantivalence* to indicate the relative value which the idea has in the consciousness of the patient. Under ordinary circumstances when the mind is functioning normally the quantivalence of ideas is normal, but it not infrequently happens that owing to pathological processes or abnormal environment that certain ideas attain a degree of importance altogether unwarranted. Under such circumstances we speak of the ideas as being *hyper-quantivalent*. This condition is characteristically seen in morbid suspicions, delusions of a persecutory character, founded upon a very slight basis of facts, as in litigants or soldiers who have been rebuked, and similar conditions occurring in paranoid states. These conditions may arise upon a comparatively normal basis in persons who are subjected to abnormal environmental conditions, particularly conditions which require living in comparative solitude or in close association with a few people to the exclusion of all others. These outward conditions are often seen in prisons and in secluded army posts.

In order that the mind may continue functioning in a normal manner it is necessary, among other things, that its contact with an environment of which other minds form a part should be continuous and of a sufficiently varied character to keep the process of idea association active and from getting into grooves. Under normal circumstances a slighting remark made to an individual is perhaps received by a retort in the same vein and the normal rush of ideas which an active life necessitates soon drowns out or submerges this particular idea, so that it has not the opportunity to constantly recur to the discomfort of the individual. It assumes its proper relation to the idea content of consciousness, the outward facts of which it is the inner rep-

resentation are seen entirely in their proper perspective. There has been no distortion of the normal quantivalence of the idea. Under abnormal environmental conditions, in which the patient leads a desultory mental life, where each day is much like the preceding and there is little variety of idea association necessitated by daily duties, there is nothing to prevent such an idea from recurring repeatedly to the individual, and because of this recurrence, and because it occupies so frequently the inner consciousness, the outward events to which it corresponds are seen in a distorted perspective. The idea has assumed a position in consciousness totally unwarranted by its real importance. It has become hyper-quantivalent.

Under such conditions the soldier who has been reprimanded broods over his disgrace until what was in reality a small affair has grown by constant nursing into a matter of tremendous importance: the veteran who has been denied a pension, the litigant who has lost a law suit, have been greatly wronged and cry aloud for justice. The narrow-minded malcontents who see life from a distorted and intensely personal view-point are the favorable subjects for the development of hyper-quantivalent ideas.

Fixed Ideas.—The term *fixed idea* is usually applied to these conditions and as a term designates them very well. The fixed idea must be hyper-quantivalent. If a distinction were to be made it might be made on the basis of the content of the idea. Thus hyper-quantivalence is usually spoken of when the idea has its origin in the allopsychic consciousness. The litigant pursuing case after case to obtain his rights, or the discharged employe making repeated appeals for investigation are examples. The term fixed idea, on the other hand, is used more often for conditions arising in the somatopsychic or autopsychic field of consciousness. Thus the rather timid young man who feels his pulse and discovers that it is too rapid and perhaps somewhat irregular acquires as a result a fixed idea that he has organic disease of the heart. The woman whose husband has recently

died and who is harassed by the belief that he might have lived had she given him a certain medicine has a fixed idea.

In both of these conditions, however, the patient feels the idea to be the outgrowth or reaction of his normal self and not in any way abnormal or an obtrusion from without as in the cases to follow.

Obsessions.—By obsessions we mean ideas, emotions, impulses, which occupy consciousness persistently and irrespective of the desires of the subject, often intruding themselves at inopportune times and occupying the field of consciousness to the exclusion of other ideas. They are sometimes spoken of as besetments, as they come unbidden and refuse to go at the will of the subject. They exist with clear consciousness and are often fully comprehended by the patient at their true value.

In the mild forms they are quite common and occur not infrequently in normal persons, usually as a result of fatigue. We are all familiar with the phenomena of the constant recurrence to the mind of a tune that was heard the night before at the opera, it invades consciousness to the extent of actually interfering with the transactions of the usual business of the day. Then there is the somewhat more aggravated case of the person who goes to bed but is worried for fear he may not have turned the gas-cock quite shut; he tries to banish the idea, turns over to go to sleep but it will not go and finally in sheer desperation he gets up, and, satisfying himself that the gas is actually turned off, returns to bed and goes to sleep.

The commonest and best known of the obsessions are the so-called *phobias* or fears. These fears are usually very specific, referring to some special class of objects or set of conditions and receive names accordingly. Thus we have *miso-phobia* (fear of dirt); *metallophobia* (fear of metal, such as door knobs, money, etc.); *agoraphobia* (fear of wide or open spaces); *claustrophobia* (fear of narrow or closed spaces); *pyrophobia* (fear of fire); and so on indefinitely. Patients suffering from these obsessions are often completely dominated by them under conditions that call them into existence. The

patient with agoraphobia crosses the street in fear and trembling, or perhaps cannot summon sufficient courage to cross it at all unless some one is with him, while on the contrary the claustrophobic cannot endure a small or closed room, but must have the doors open, or if in a crowded hall is suddenly seized with fear and forced to make a hasty exit.

Of not infrequent occurrence also are the obsessions of doubt. These doubts may arise about anything, even the simplest acts of every-day life. A patient upon retiring may be seized with a doubt as to whether he turned the gas off or locked the door in the main hall, and is forced to get up and go and see, only to be seized again by the same doubt when he returns to bed; another, having written several letters, is forced to open all of them to make sure that the right ones are in each envelope. Still others have doubts about religious or metaphysical matters. So we have doubters who question the problem of a future life or the existence of things as they appear to the senses, etc.

If the actions which the obsessions tend to initiate are resisted the tendency becomes more and more imperative until yielding is forced and finally these patients, although fully understanding their condition and the abnormality of their ideas, may pass their lives in a continual round of actions made necessary by their obsessions.

Because of this element in the obsessed state that impels to action these conditions are often spoken of as *imperative* ideas or *imperative concepts*.

Autochthonous Ideas.—These ideas come into the patient's mind like foreign bodies, as it were, and not as a result of the usual methods of association. The patient feels that he has strange thoughts, thoughts that are not his thoughts and usually interprets their occurrence as being due to outside, usually malevolent, influences. The thoughts are forced on him by hypnotism, thought transference, by his enemies. Bad thoughts are thus placed in his mind and often he is forced to act as a result of them although he does not want to and proclaims that it is all against his will.

DISORDERS OF THE TRAIN OF THOUGHT.

Flight of Ideas.—In the normal process of thinking our thoughts are directed consistently to a well-defined end—the *goal idea*—and all other ideas fall into a subordinate position until this is attained. In flight of ideas the patient either has no goal idea or else at once loses it so that there is no consistent effort directed towards attaining it, and the thought therefore wanders here and there under the influence of chance associations. As a result the train of thought instead of progressing changes direction frequently, returns upon itself, and never reaches any logical end. The various ideas are not, however, incoherent—they do not fail to be connected one with another, although it may be quite impossible at times to see just what their connection is. If the associations are external, that is, originate in the surroundings, it is usually quite possible to place them; when, however, they are internal, that is, originate in the patient's mind, it may be quite impossible to conceive what they may be. An example will illustrate these various conditions: "Do you know I was kidnapped to be sent here twice. I saw a mock funeral of me before I left home. This was done because I am a great inventor. The Pope of Rome is the greatest human being in the universe. He is the head of the Catholic Church. My head (association of the word head in two different meanings) is good and sound, and I am certainly not insane. Do you hear that ticking of the clock? (External association.) It says, 'call the little heifer, the heifer is sick.' Did you ever see the gloves veterinary surgeons use when they doctor sick cows? (Internal association.) How would you like to be a veterinary surgeon? Say! what are you keeping me here for anyhow? I want to go home. (Here he was asked how he slept at night.) I have slept excellently; that is because I am of such a strong constitution. The constitution of the United States (association as above with the word head—probably the association is in large part at least a sound or—as it is called—a *clang association*) was signed by Thomas Jefferson. He was just a man, but he was

not the inventor I am." While there are many places in the example where the connecting link is missing—probably because it was an association formed entirely within the patient's mind—still the connection can be made out in a sufficient number of instances to establish the characteristics of the train of thought. One of the principal characteristics of this type of the train of thought is its great liability to change of direction by external association, as for example, the ticking of the clock in the above stenogram. This quality is known as *dis-tractibility*. Any sensory impression is liable to be the starting point of idea-association, so that these patients' train of thought may be turned at will, almost, by such devices as shaking a bunch of keys before them, saying some word loudly, showing them a newspaper, or in other words, momentarily distracting their attention.

This condition of flight of ideas outwardly appears to be an expression of an increased rapidity of the flow of idea-association. However, this is not so, as an example will illustrate. The low C tuning-fork used in testing hearing vibrates 128 times per second. If the amplitude of vibration which, although it is readily appreciable, is only a small fraction of an inch, be multiplied by 128 the resulting distance would be but a few inches at most. Let the fork be moved this distance in one second's time and the motion will be seen to be not fast by any means but slow. So in flight of ideas if the rapidity of movement in a given direction by idea-association be tested, the release of ideas will be found to be slow. Like the tuning-fork, however, there occurs a rapid change of direction.

Tests of reaction time in this condition show that it is abnormally slow and this can be readily elicited by giving the patient a word such as *tat*, *fur*, *glass*, or similar simple words, and asking him to write down as rapidly as he can either all words he can think of rhyming with the key-word or all words that come to his mind in association with it. The slowness with which these tests are executed and the meagerness of the result will be in marked contrast to the apparent wealth of ideas and facility of their association and release.

Circumstantiality.—Circumstantiality, although sometimes superficially resembling flight of ideas, is quite different from it in its completely developed form. Although there is a frequent change of direction of the train of thought the goal idea is maintained and ultimately reached, and although there are numerous digressions as each circumstance in the narrative is elaborated and explained the original pathway is returned to and the general direction maintained. Thus a patient in telling about a cane in her possession upon which a ribbon is tied for ornament must tell how she came to have the idea of decorating the cane, who else in the neighborhood had such a cane decorated, what they had said to her and she to them about it, how she had taken the ribbon off and now had put it in two boxes in the house, how the ribbons had become faded, where she got the boxes, who gave them to her, and what their color was. All these details must be entered into before she can proceed with the thread of her narrative.

This condition is often found in a moderately developed form in women and has no special significance other than showing a lack of appreciation of the relative values of ideas. In the senile, where there is some mental impairment, the goal idea may be quite lost sight of in the mass of detail and the resemblance to flight is then much more marked, still there is a more marked tendency to maintain the general direction of the train of thought.

Retardation.—Retardation, *difficulty of thinking*, as it is often called to distinguish it from psychomotor retardation, shortly to be described, is a decided slowness in the elaboration of ideas, the patient's stock of ideas do not seem to be available or accessible, ideas come slowly to the mind, there is great difficulty in forming judgments, in coming to conclusions, in reaching decisions which is felt by the patient as an *inadequacy* in dealing with mental problems. This condition is expressed by the patient in great slowness of speech, a long interval elapsing before an answer is given to a question or something done as requested (*initial retardation*), and when the question

is answered or the act done it is done very slowly and deliberately (*executive retardation*).

If such a patient be asked to count from one to twenty, beginning at a given signal and counting as fast as possible, it may be several seconds before he starts, and while a normal person should do this in two or three seconds, he may take often twenty, thirty, or even never finish at all.

Paralysis of Thought.—A complete absence of all internally initiated conscious processes. Impressions from without are not assimilated, form no associations, leave no traces. Mental life is in abeyance or abolished.

DISORDERS OF VOLITION (WILL).

Decreased Psychomotor Activity.—This symptom corresponds in the motor sphere to difficulty of thinking in the psychic sphere. Whereas in difficulty of thinking we might say that there was a slowness in the liberation of ideas in psychomotor retardation, we can say there is a slowness in the liberation of voluntary motor impulses. The patient's movements are slow and deliberate, and we find here the same distinction of initial and executive retardation. This is a prominent symptom of depressive melancholia.

Increased Psychomotor Activity.—This is just the opposite of the above condition, and is due to an abnormally facile release of voluntary motor impulses. It manifests itself in great restlessness, constant activity, even to the point of violence and destructiveness, and, like flight of ideas, the various acts are not consistently directed to a definite goal but to this and that end under the influence of chance associations. This is a prominent symptom of mania.

Impulsions.—Impulsions or impulses are tendencies to act which are more or less uncontrollable, often absolutely so. The act may be of any kind and in this class belong the so-called *manias*, such as *kleptomania* (a morbid impulse to steal), *pyromania* (a morbid impulse to set things on fire), *dipso-mania* (an impulse to drink), etc. These impulses appear

without cause, the patient is restless until they are carried out, and their accomplishment is accompanied by a feeling of relief.

Compulsions.—Closely allied to the impulses are the so-called *compulsions*. The compulsions, like the obsessions, already described, are felt by the patient to be pathological, to be forced upon him, as it were. The impulse of the dipsomaniac, like the fixed idea, is conceived by the patient as originating within and being a part of him, a natural development of his character, perhaps, while the compulsion is often directed to the doing of some act distinctly abhorrent to the patient, such, for instance, as murder, and he may take elaborate precautions to protect others or even have himself locked up to insure against its possibility.

If these compulsions are resisted or interfered with they give rise to certain symptoms which in marked cases constitute a veritable crisis. The patient feels weak, trembles, becomes dizzy, perspires, and finally yields to find that at once all these symptoms disappear.

Stereotypy.—In stereotypy the voluntary impulse once set in motion tends to continue or repeat itself in the same way indefinitely, thus we have three forms of stereotypy, viz., stereotypy of *attitude*, of *movement*, and of *speech*.

In stereotypy of *attitude* the patient tends to maintain a particular, usually peculiar, position, such as standing in the corner, one arm raised, lying on the bed with the head hanging over the side. The muscles are usually tense and the patient resists attempts to alter his position.

Stereotypy of *movement* manifests itself in the continuous repetition of some movement, usually meaningless, such as swaying back and forth, nodding, wrinkling the forehead or the like. When the word stereotypy is used without qualification this variety is referred to. When these peculiarities are constant and characteristic of the patient, particularly if they occur in connection with his ordinary conduct, such as peculiarities of walking, eating at table, or in speaking, they are usually spoken of as *mannerisms*.

Stereotypy of *speech* shows itself in the constant repetition of the same, usually senseless, phrases, and is more commonly known as *verbigeration*.

The persistence of a motor impulse, whether in action, speech or writing, and commonly expressing itself by the iteration and reiteration of the same word or phrase, generally in an attempt to answer a question, is called *perseveration*. It may not be at all senseless, but simply show the tendency of a motor impulse once generated to hold the field, as in the following letter written to me by a young epileptic.

"May 21st, 1907. Supt. Wm. A. White I would like to have a talk with you about matters my papa advise me to do. How can I get to see you? will you come to see me or can I come to see you? I would like very much to see you Supt. Wm. A. White I am well but I want to see you so I can have a talk with you about matters that my papa advise me to do I am feeling all right now than I did some years ago but I would like to see you and have a talk with you about matters that my Papa advise me to do and I would be very thankful to you Supt. Wm. A. White if I could get to see you please do it for me so I can have a Talk with you about matters my papa advised me to do."

Negativism.—Negativism is a peculiar condition which is manifested by the patient doing exactly the opposite of what he is requested to do. Every attempt to get the patient to do anything results in the release of a motor impulse the exact opposite of that required for the performance of the act.

Patients exhibiting this symptom not only do the opposite of what is requested of them but exhibit negativistic tendencies toward the promptings of normal desires. They do not yield to the inclination to empty the bladder or rectum, so that these organs often become overloaded with disastrous results. They often also permit saliva to accumulate in large quantities in the mouth, even until it has undergone putrefactive changes.

When negativism manifests itself in inactivity, as in the above examples, it may be said to be *passive*. Often, however,

it is *active*, the patient actively resisting attempts to induce him to move, eat, or dress,—he is said then to be *resistive*.

Suggestibility.—Suggestibility may be said to be the exact opposite of negativism. The patient's reactions are determined by impressions or suggestions derived from others. It is manifested in various ways. In extreme cases the patient resembles a lay figure; the limbs can be placed in any position and are there retained indefinitely. This condition is designated as *cataplexy*, or *flexibilitas cerea* (waxy flexibility). Often suggestibility is manifested by the patient repeating words or phrases said in his presence—*echolalia*—or actions done before him, such as taking out the watch, putting the hands to the face—*echopraxia*. This method of reaction in which personal initiative seems to be absolutely in abeyance is often spoken of as automatic—the symptom is known as *automatism*. When the automatic responses are to commands then the term *command automatism* is used.

Stupor.—Stupor is a condition in which there is usually a profound disturbance of consciousness, but the feature which gives it its distinctive outward character is psychomotor inhibition—voluntary motion is to a greater or less extent in abeyance. The mental state in the different varieties of stupor differs greatly from profound clouding of consciousness to almost clear consciousness, as in the catatonic stupor of dementia precox. To this latter condition, in which the patient, although quite immobile, is still fully alive to what is going on about him, the term *pseudo-stupor* has been given.

DISORDERS OF THE EMOTIONS.

Exaltation.—Exaltation is a condition of morbid emotional elation, a feeling of happiness and well-being not warranted by the condition of the patient or his surroundings. It is one of the most prominent symptoms of mania, and is here combined with increased psychomotor activity. With exaltation is often associated a marked degree of irritability with sometimes outbursts of angry states.

Depression.—Depression is the opposite of exaltation. It is a morbid feeling of unhappiness not warranted by the condition of the patient or his surroundings. It is one of the most prominent symptoms of melancholia, and in that variety known as affective or involution melancholia often gives rise to a state of *anxiety* with marked precordial distress, difficulty of breathing, and some motor agitation.

Emotional Deterioration.—A condition of poverty of the emotions manifesting itself by indifference and occurring in conditions of mental deterioration, particularly seen in dementia precox, paresis and senility.

Morbid Anger.—This symptom, except as due to transient conditions of irritability, as in mania, is seen most often in the defective. It is often a marked feature in idiots and imbeciles, constituting them very dangerous patients, but is also seen among the higher defectives, the morally deficient, and is here often combined with great cruelty.

DISORDERS OF MEMORY.

Amnesia.—Amnesia is loss of memory. The loss may be *circumscribed*—only for certain things or extending over a very definite space of time—or it may be more *general*. Loss of memory extending over definite periods of time is usually the result of illness or injury. In such cases the amnesia usually has a fairly definite beginning with the delirium of the illness or the occurrence of the injury and usually also a fairly definite ending. It is known as *retrograde amnesia*. If, on the contrary, the amnesia is continuous, the patient seems to be no longer able to store up memories, as is so typically seen in the senile, the amnesia is *anterograde amnesia*.

Hypermnnesia.—An exaggerated degree of retentiveness, often seen in the remarkable memory for details, in some cases of chronic delusional insanity, who seem to remember every detail in their lives as bearing on their delusional system.

Paramnesia.—This is a disorder of memory in which events are remembered which never happened. An example of this

was afforded by a patient who stopped me while I was going through the ward and told me that, while she was dining in another ward, I had entered the dining-room and informed her that any time her satchel was ready she could go. As a matter of fact, I had not even seen the patient upon the occasion she referred to. When these false memories are projected into the past and associated with delusions, often of an explanatory nature, as occurs in paranoia, the symptom is known as *retrospective falsification of memory*.

DISORDERS OF ATTENTION.

Aprosexia.—This is the condition of inability to fix the attention for any length of time in one direction and is seen typically in mania. Here the attention wanders rapidly from one thing to another and as a result perception is inadequate. The different elements of the environment are not attended to sufficiently to insure their correct perception. This insufficiency of perception gives rise to the maniac's defects of orientation most frequently seen with respect to persons, some slight resemblance being hit upon and the person mistaken for someone else, a former acquaintance or associate.

Enfeeblement of the power of voluntary attention is one of the most characteristic of the signs of dementia and is a prominent symptom in the various dementing psychoses, for example, in dementia precox.

Hyperprosexia.—In this condition the attention of the patient is completely absorbed by some thoughts, usually by his delusions. This complete absorption also gives rise to disorders of perception, as the environment is not attended to and often not perceived at all. The condition may give rise to actual delusions. A young woman, who was suffering from the most profound melancholia with painful delusions, was so absorbed in these that she did not perceive the tray of food that was brought to her and subsequently when it was brought to her notice thought some mysterious power must be responsible for its presence.

DISORDERS OF PERSONALITY.

To understand these disorders we must understand what constitutes personality. The individual, besides receiving certain information from the environment and forming certain ideas, has beyond this a consciousness of self, a feeling that all his perceptions and ideas are experiences of a single self, a self that maintains its own individual identity throughout, and which the individual calls "I." This problem of self-consciousness, although the riddle of psychology, presents certain features useful in elucidating the problem in hand.

Our consciousness, as we know it, is subject to many interruptions, many lapses, so that in an ordinary lifetime hiatuses appear in its course, yet the notion of personal identity is not thereby destroyed. For example, every profound sleep destroys the continuity of consciousness. We may conceive, however, that underlying all these manifestations, such as disappear from view in the profundity of sleep, there are certain permanent features which form the foundation, the continuum of consciousness upon which the transitory features as we see them are erected as epiphenomena. The most important element in this fundamental continuum is the *cænesthesis*—made up of what we must conceive as a continuous flow of sensations from all the organs of the body to the mind. This flow of sensations is constant throughout life, and in the absence of disease varies little either as to quality or intensity. It is the continuous, ever present element of our consciousness. The other elements, of which we have directly a better knowledge, made up for the most part of perceptions of the outer world of reality, vary much more in correspondence to many factors, particularly as to the nature of the environment, and the characteristics of the perceiving mind as the result of past experiences. It is these two elements of consciousness which make up the personality.

Transformation of the Personality.—This phenomenon is seen in the paranoid conditions typically, that gradual growth

of a delusional system accompanied and probably to some extent dependent upon disorders in the realm of the organic sensations. The paranoiac, with his profound disturbance of allopsychic consciousness, sees the outer world of reality twisted, deformed, as though he were viewing it through an astigmatic medium. All the facts of his life, his knowledge of the world are distorted to conform to the deformity of the medium through which he views them. Not only are these elements of his personality seriously disordered, but its very foundation—the cœnesthesis—is also seriously disturbed, as seen particularly in the first stage of the disease. All of the elements that go to make up the patient's personality being so completely disordered, the expressions of that personality are similarly disordered and we have the picture of the third stage, the final result of the disease process in its natural unfolding—transformation of the personality.

Depersonalization.—A lesser degree of the same sort of process results in a disorganization, a breaking up of the personality. This is seen in many conditions and is associated with a *feeling of unreality*, and occurs as a part of the *delirium of negation*. The patients proclaim that they are changed, they are not themselves. One of my patients would look in the glass and stare in wonder at her reflection, saying her eyes were not hers, they were cat's eyes. Another patient affirmed she had no head, no arms, no body, no mind, nothing. The feeling of personal identity in these cases has become disrupted, the personality disorganized.

Multiple Personality.—In this condition the patient passes through stages in each of which the personality is different. The usual cases are those in which a secondary personality grows up in the individual and at times overwhelms the normal personality and occupies the stage to its exclusion. These are the cases of so-called *double consciousness*. The two, or sometimes more, personalities are usually separated from each other by complete amnesia, so that one does not know of the existence of the other.

CHAPTER VII.

EXAMINATION OF THE INSANE.

In no department of medicine is a complete examination of the patient more important than in the department of psychiatry. This examination must not only include the symptoms that the patient may present when seen, but must also include the most detailed obtainable anamnesis. It must be borne in mind that insanity is a condition of an individual who was previously sane and that above all it is not a something that comes from without, attacks and seizes on the patient like, for example, a pathogenic microörganism, but is rather to be considered as a type of reaction of the individual to certain inimical conditions. In order, therefore, to understand a particular case it is of the highest importance to have, as fully as possible, a conception of the individual before he became afflicted, so that we may understand the symptoms which are the expressions of this reaction.

The scheme of examination which follows is directed primarily to elucidating the mental state. It is taken for granted that the student is familiar with the various methods of physical examination. The omission of specific directions as to the physical examination is not, however, to be taken as an indication that it is considered unimportant. On the contrary a physical examination in minute detail is of the utmost importance and unless it is made the risk is bound to be run that the key to the whole situation will be overlooked.

Mental disorders at best are obscure phenomena and no pains should be spared to illuminate them from every quarter. It is not, of course, expected that every possible physical test will be applied to each case. For example, it would be quite foolish to stain for the malarial parasite unless there was some clinical

evidence of malarial infection. The usual examination of heart, lungs and urine should, however, be made in each instance. Similarly with the neurological examination: Trousseau's or Chvostek's signs would hardly be thought of unless tetany were suspected, while in every case the reaction of the pupils to light and accommodation and the patellar tendon reflex should be recorded and in patients suspected of organic brain disease or paresis the Babinski reflex and Biernacki's sign would be examined for.

In indicating what is important to bring out in the examination, the specific character of the information desired is set forth for the most part by questions, while for more detailed information special tests, which are given in full, have been devised.

The complete examination will be considered under the following five headings, the first three of which relate entirely to the anamnesis and the last two to the examination of the patient himself.

- I. HISTORY OF THE FAMILY.
- II. HISTORY OF THE PATIENT.
- III. HISTORY OF THE PRESENT ILLNESS.
- IV. GENERAL OBSERVATION OF THE PATIENT.
- V. SPECIAL EXAMINATION OF THE PATIENT.
 - A. PHYSICAL.
 - B. NEUROLOGICAL.
 - C. MENTAL. { GENERAL.
SPECIAL.

SPECIAL TESTS.

I. HISTORY OF FAMILY.

Parents:

Were parents of patient related, or did they differ greatly in age?

Mental Characteristics of Father and Mother:

What were their mental characteristics (*i. e.*, disposition, temperament, etc.)?

Did either have extraordinary gifts, one-sided talents, or abnormal traits?

Nervous and Mental Disorders:

Was either nervous? What were the symptoms?

Did either have convulsions?

Did either have periodical headaches, migraine or hemicrania?

Was either neurasthenic?

Was either ever insane?

Was either at any time a patient in a hospital for nervous or mental diseases? Where? When, and how long did he or she remain? What age at the time? How long after or before the patient was born?

Did either have any other disorders (tics, etc.)?

Other Diseases:

Did either have constitutional diseases? Syphilis? Tuberculosis? Diabetes? Arthritis?

Alcohol:

Was either addicted to the use of alcohol? How much did they take (in day, week, month, etc.)?

How long was it taken (years)?

What was the result? Did either have delirium tremens?

Crime and Suicide:

Was either a criminal? What crimes did either commit?

Was he or she punished by law? What was the punishment?

Did either commit or attempt suicide? Under what circumstances?

*Defects of Siblings:*¹

Did the siblings of either father or mother die young? What were the causes of death?

Were the siblings of either congenitally deformed? Were any blind? Deaf? Dumb?

Did siblings of either have convulsions or other nervous disease?

¹ Siblings is a convenient term used to denote children of the same parent.

Were any insane, or patients in a hospital for nervous or mental diseases?

Grandparents:

If there appears to be a hereditary taint, get details as in the above questions for both the maternal and the paternal grandparents.

Siblings of Patient:

Are or were there siblings of patient? Give in order (noting male and female), and get age, if living, or age at and cause of death. Inquire regarding nervous and mental diseases as in questions above.

II. HISTORY OF PATIENT.

Full Name and Age:

(In years and months.)

Address:

What is the address of the patient? How long has he lived there?

Occupation:

What is the business, profession or occupation of the patient? How long has he been thus occupied?

What previous occupations has he had? Get the details of how long he has retained each position, how successful he was in each one, and why he left?

Birth:

At the time of the birth of the patient did the mother have difficult labor? Were instruments used? What was the cause of the obstetrical difficulty?

Early Childhood:

Had the patient convulsions in childhood? How old was he or she when these began? How many years did they continue? How long was each seizure? Give details regarding their character (*e. g.*, loss of consciousness; local or general; how brought on; etc.).

Had the patient rickets?

What other diseases in childhood did the patient have? When, and with what result?

When did he learn to walk?

When did he learn to talk?

School:

When did he first attend school? Where did he go? How long did he remain at school? Why did he leave? In school was he bright, average, or stupid?

Injuries and Diseases in Later Life:

Has the patient had any head injuries or convulsions (*i. e.*, beyond what was mentioned in answer to question above)?

Has he had gonorrhea?

Has he had syphilis?

What treatment for the latter did he receive, and what were the after effects?

What other diseases has patient had? What were the after effects?

Alcohol:

Has patient taken alcohol in any form (beer, wine, whiskey, tonic medicines, etc.)? How much of each has he taken, by the day, week, or month? How long has he been taking alcohol? Has he become drunk? Has he ever had delirium tremens? Has the alcohol made him pleasant or disagreeable?

Other Habits:

Has the patient taken drugs, such as cocaine, morphine, opium, or any others for long periods of time?

Has he used tobacco? Did he smoke, chew or snuff? How much tobacco did he use in a day; in a week?

Marriage and Children:

Is or has the patient been married? When was he married?

Is the (husband) wife still living? How many times has he been married?

Has the married life been happy? If not, why not?

Has the patient or wife any gynecological or menstrual difficulties? When did catamenia begin? Has it been regular? When did catamenia end?

Has the patient or wife had abortions or miscarriages?

Give the details. (How often, when, and how were they brought about.)

How many children has patient had? Give them in order, noting sex, ages, nervous and mental diseases, etc.

Previous Attacks:

Has the patient had similar attacks before? What were the symptoms? How long did the condition last? Did he go to a hospital for nervous or mental diseases?

If he has not had similar attacks before, inquire if he has had periods of depression or of exaltation, how long these lasted, what was done during these attacks, etc.

Get any further details about the disposition of the patient; how he got on with his companions, whether or not he was sociable, moody, inclined to look on the bright or the dark side of things, etc.

III. HISTORY OF THE PRESENT ILLNESS.

Cause and Onset:

Did the present illness come on as the result of an accident or disease? Did the patient have a physical or a mental shock? Has he been under extraordinary strain for some time? Is the present attack thought to be due to excess of any sort? Specify.

Did the attack come on gradually or suddenly?

General Physical and Mental Changes:

Has there been a change of character in the patient? Has he been agreeable to his wife (husband) and children, to friends and neighbors?

Has he appeared to be dazed, or quiet, or restless? Has he been excited?

Has he been tidy in feeding and in his other habits?

Has he spoken much or little, or has he been dumb?

Has he slept well? How many hours has he slept each night? Has he slept regularly?

Has he eaten well, or little? Has he had a perverse or abnormal appetite? Has he taken his meals regularly?

Does he give any explanation for his poor appetite or his refusal to eat food?

What was the patient's weight before the illness began?

What other changes in the physical condition of the patient have been noted since the beginning of the illness? Has he been tremulous in hands or in speech? Has he become bald or has the hair whitened?

Emotional Condition:

Has the patient been depressed, or unduly joyful, or apathetic?

Has he been passionate, or inclined to anger, or threatening?

Hallucinations and Delusions:

Has he heard imaginary voices? What have they said?

Did he go through the house looking under the beds and the furniture, and in the cupboards? Did he listen in corners, or at the walls? Did he look at definite points for some time?

Has he had ideas of persecution, or of grandeur?

Do the delusions change?

Suicide and Homicide:

Has he made attempts at suicide; at homicide? What were the exciting causes?

Intellectual and Memory Defects:

Has he shown any intellectual defect? Has he been able to carry on his business in the proper manner? Has he made peculiar or ill-advised purchases?

Has he shown any defect in memory? Has he remembered his business engagements? Does he recognize his friends or relatives? Does he mistake persons? Has he kept track of the days of the week and of the month? Has he known where he has been?

Moral and Legal Laxness:

Has the patient offended against the law; against morality?

How did he so offend and with what result?

Insight:

Has he understood that he has been mentally different than he is normally? Does he appreciate the nature of his disorder?

Miscellaneous:

Has the patient any indications of stereotypy, or of catalepsy, of apparent playfulness, of impulsive actions?

Add any other information that the informant can give regarding mental changes in the patient.

Note the name and address of the informant, and the relation he bears to the patient.

IV. GENERAL OBSERVATION OF THE PATIENT.

Is he in bed, about the ward, on parole?

Facial Expression:

Does the patient look sad, fearful, gay, hostile, suspicious, visionary, expressionless, intent, arrogant, sleepy, cyanotic, demented?

Movements:

Are there movements of the body, of the head, of the face?

Is there Schnauzkrampf? Are there rhythmic quiverings of the mouth? Are there wrinklins of the forehead?

Are there stereotyped movements?

Does the patient walk straight and to some purpose? Does he walk irregularly or go from one thing to another?

Does he go slowly or quickly?

Appearance and Demeanor:

How does he carry his hands? Is his hair tidy or unkempt?

Is he fully dressed, half-dressed, or naked? Is his clothing well kept? Does it show that he has been untidy in feeding and in drinking? Do the clothes fit the patient?

Mental Observations:

Did he voluntarily complain of ill-being or ill-treatment, or speak of his delusions, or his feelings?

Was he coherent?

Was it difficult to keep him on the line of questioning?

Did he coöperate in the mental and physical examinations, or did he raise objections to them?

How did he receive the visits of the physicians?

V. SPECIAL EXAMINATIONS OF THE PATIENT.

A. PHYSICAL EXAMINATION.

B. NEUROLOGICAL EXAMINATION.

1. *Reflexes:*

- a. Superficial or skin reflexes.
- b. Deep or tendon reflexes.
- c. Organic or visceral reflexes.
- d. Pupillary reflexes.

2. *Sensation:*

a. Vision:

visual acuity.
visual fields; hemianopia, contractions?
color vision.
entoptic phenomena.
ophthalmoscopic examination.
hallucinations, character?

b. Hearing:

acute, sub-acute, or deaf?
test of air and bone conduction.
high and low tones?
subjective noises, voices?

c. Taste:

bitter, sweet, salt, sour.
subjective tastes, before or after meals?

d. Smell:

tests with solutions.
subjective smells, referred to self or environment?

e. Touch:

touch threshold on the head, neck, arms,
hands, legs, feet, abdomen, chest.
accuracy of localization on the head, neck,
arms, hands, legs, feet, abdomen, chest.
double point threshold on the head, neck,
arms, hands, legs, feet, abdomen, chest.

- f.* Pressure :
discrimination.
- g.* Pain.
threshold on the head, neck, arms, hands,
legs, feet, abdomen, chest.
- h.* Temperature :
perception of temperatures.
perception of differences.
- i.* Stereognostic sense.
- j.* Joint and muscle sense :
passive movements.
active movements.
- k.* Organic Sensations :
hunger.
thirst.
fatigue.
sexual.
desire for urination.
desire for defecation.
- l.* Subjective organic sensations.
formication.
hyperesthesia.
hyperalgesia.
anesthesia.
analgesia.
feeling of reality.

3. *Movement:*

- a.* Rapidity of movement.
- b.* Accuracy of movement.
- c.* Force of movement.
- d.* Limited movements.
- e.* Movements of special parts.

C. MENTAL EXAMINATION OF PATIENT.

General Memory and Orientation :

What is your full name?

Where were you born? Where do you live?

What is your age?

In what year were you born?

What year is this? What month is this? What day of the month? What day of the week is it?

(If the answers to the foregoing questions are not consistent, try to get the patient to explain the discrepancy.)

What city is this? What place is this? How far from your home is this?

When did you come here? How long have you been here?

Who brought you here? How did you come?

What did you do when you arrived?

Whom did you see when you arrived? Did you ever see me before? What is my name?

What is his (other physician's) name?

When did you get up this morning? Did you have breakfast? What did you have? Did you have dinner? Did you have supper? What did you have for those meals?

Has any one visited you? Who was it? Is he a relative? When did he come?

General Understanding and Insight:

What kind of a place is this? What kinds of people are here? Who are they (patients)?

Who are they (nurses and attendants)? Who am I, or who are we (physicians)?

Why are you here? Did you want to come?

Is there anything wrong with you? Are you sick? Do you feel quite well? Is your mind all right?

Special Memory:

Family: What are the names of your parents?

Are they living? Where do they live?

What was the name of your mother before

she was married? How many brothers and sisters did you have? Give their names? Are they all living? Which ones are dead? Of what did they die? How old were they at time of death? Where do those living live? What do they do?

School: Where did you first go to school? What age were you at that time? What other schools did you attend? Give the names of some of your teachers?

Occupations: What is your occupation? When did you first go to work? What age were you? What year was that? What other work have you done? Give the dates and the time for each position that you have had, and tell why you left each place.

Marriage and Children: Are you married? When were you married? How long ago is that? What was your wife's (or your) maiden name? Have you children? When were they born? How many are now living? How old are those now living? What are their names? Where do they live? How many are dead? How old were those that died? Of what diseases did they die? Has your wife (or you) had miscarriages or abortions?

Diseases: What diseases did you have as a child? Did you ever have convulsions? In these did you lose consciousness? Did you ever have a blow on the head or a fall? Have you had syphilis? Were you treated for this? How long ago did you have it and how long did the treatment continue? Did your hair fall out? Did you have sores on your penis (or vulva) and other parts of the body?

Other details of the effects of the syphilis?

Alcohol: Do you take alcohol in any form?

How much do you take (number of glasses a day or week)? Have you ever been drunk?

Have you ever had delirium tremens?

Other Drugs.—Have you ever taken cocaine or morphine? How long have you taken them?

How much have you taken in a day?

SPECIAL EXAMINATION ABOUT THE PRESENT CONDITION:

SPECIAL INSIGHT INTO THE CONDITION:

Emotional: Do you feel all right, or depressed, or excited, or indifferent? Are you always this way? If not, how are you at other times? How were you six months ago? When did this feeling begin? What was the cause of it? Did it come on suddenly? Are you sad or afraid?

a. Have you had any peculiar experiences?

b. Is anything being done to you or has anything been done to you to make you sad or afraid?

c. If not, why are you sad or afraid?

d. What do you fear?

e. Do you think you are being watched, or talked about?

f. Have people been persecuting you, or have they tried to poison you, or to rob you, or to influence your mind, or to compel you to do things that you do not wish to do?

g. Who are trying to do these things?

h. Why do they do it?

i. How have your companions and your friends treated you? How has your wife (or husband) treated you?

j. Has this been planned out?

- k. What makes you think so? (Get a full account of the systematization of the delusions and note especially the retrospective interpretations and the falsifications of the same.)

Bodily: Is your bodily condition good? Do you feel physically well? (Get a voluntary account of any peculiar bodily feeling of the patient, and if this is not possible carefully question, using as few leading questions as possible, to bring out any localized or general feeling of bodily change, etc.)

Head: Does your head feel all right? How is your mind? (If there is insight into the condition, get a full account from the patient of what he thinks regarding the changed condition.)

- a. Do you have peculiar thoughts?
b. Do thoughts to do or say things spring up in your mind?

Auditory Hallucinations:

- a. Do you hear things?
b. Are they noises?
c. When do you usually hear them? Are they heard oftener when you are alone, or with other people?
d. Where do they come from? From the people about you, or from the walls and ceilings, or from other rooms?
e. If voices, can you recognize them? Are they plain? Are they real voices or only thoughts? Do you hold conversations with them? Do you reply to their questions or to what they say? Do you reply aloud, or do you only think the reply? Do they say pleasant or disagreeable

things? Do the voices or noises go on continually? Do they stop when other people talk with you, or when you talk, or when you listen to other things, for example, music?

Visual Hallucinations:

- a. Do you see things? Are they people, or animals, or things?
- b. When do you usually see them, in daylight, in the dark, when you are in bed, when your eyes are open or shut?
- c. Do they move or remain in one place? Do they seem to be in special places on the floor, in the corners of the room?
- d. Do they always seem to be in front of your eyes? Can you get rid of them by turning your head?
- e. Do they seem natural? Are they the colors you would expect such things to have? Are they transparent, so that you can look through them?
- f. Can you get them to disappear. How do you do this?

Memory: Is your memory good? Has it always been good (or poor) as it is now? Have you difficulty in remembering any special things?

Attention: Can you attend to things as well now as you could?

Thinking: Can you think well? Do you understand readily what is said to you? Does it take you some time to think out the answer to questions? Do you understand what you read?

Capability: Can you do things as well now as you could? Do you have any difficulty in

fixing your mind on a thing? Have you any difficulty in starting to do things? Do you feel more disinclined to get up in the morning than you used to do? Have you any difficulty in dressing, in eating, in speaking, in walking? Do you feel able to go to work?

Sleep: Do you sleep well? How many hours at night? Do you ever sleep in the day time? Do you feel rested after your sleep?

Dreams: Do you dream? How often do you dream?

- a. Do you dream of things that have happened to you recently, or some time ago.
- b. Do you dream of seeing things, or of hearing things, or of things tasted, smelled, touched, etc.?
- c. Do you dream of imaginary and of impossible things?
- d. Does the same dream come twice or more? Do they change every time?
- e. Are the dreams pleasant or disagreeable?

Get the patient to describe as accurately as he can one or more of his dreams, and if he cannot at the time remember them, tell him that you will ask him again about them and to try to remember any that occur until you ask him again.

Explanation: Bring up before the patient some of the things mentioned in the history of his case as obtained from his relatives or physician, and get him to explain the events.

- a. Impulsive or peculiar actions.
- b. Suicidal or homicidal attempts.
- c. Hallucinations and delusions.
- d. Moral laxness.
- e. Lack of judgment.

SPECIAL TESTS:

Speech:

Motor-Vocal:

Does the patient answer quickly or slowly?

Does he stammer, or stutter, or slur or jumble his words? Is there "jargon" speech?

Have him repeat some of the following words and phrases, and describe the character of the repetition, whether normal, slurring, etc.

Third riding artillery brigade.

Peter Piper picked a peck of pickled peppers.

Conservative. Perturbation.

Statistical. Fastidiousness.

Irretrievable. Autobiography.

Are there twitchings of the facial muscles, of the lips, etc., while the patient is speaking? Are there tremors?

Motor-Written:

Have the patient write his name, the date of his birth, the city in which he lives, the name of the present place, and the date.

Have him write from dictation a short sentence or phrase. *E. g.,*

The United States of America.

The evening has come.

Contentment is a pearl of great price.

Where shall I find hope?

Have him copy one or more typewritten phrases or words.

Sensory-Hearing:

Does the patient understand what is said to him readily?

Does he obey simple commands, *e. g.*, stand up, show your tongue, cross your legs, squeeze my hand? If not, is it because he does not understand you or is it because he will not?

If he obeys the simple commands, does he do so as readily the more complicated ones? *E. g.*, Walk to the other end of the room, turn about quickly, walk back, turn your chair around, sit down and cross your legs.

Sensory-Visual:

Does he read words aloud correctly? Does he read numbers, sentences, etc., correctly?

Does he name colors (differentiate between color blindness and inability to find the name for a common color, *e. g.*, black, red, white), objects, and pictures correctly?

Does the patient use wrong words (paraphasia)? Does he have difficulty in getting the name or the word for a thing?

Does he have a tendency to repeat certain words, and do certain words recur throughout the examination?

Apprehension and Apperception:

Summarize the results of the examination of the patient up to this point in respect to his ability to apprehend and to comprehend the situation; how much insight into his condition he has, whether he has been quick or slow to grasp the meaning of questions, whether or not he seems able to take in more than one thing at a time.

Have the patient read aloud one of the following stories, ask him to give the point of it in his own

words. Note how well he does the original reading, and record accurately what he says in giving the content of the story.

1. It is related that at the coronation of one of the popes about three hundred years ago a little boy was chosen to act the part of an angel; and in order that his appearance might be as gorgeous as possible he was covered from head to foot with a coating of gold foil. He was soon taken sick and although every known means were employed for his recovery, except the removal of his fatal golden covering, he died in a few hours.
2. A female polar bear with two cubs was pursued by sailors over an ice field. She urged her cubs forward by running before them, and as it were, begging them to come on. At last in dread of their capture she pushed, then carried and pitched each before her, until they actually escaped. The polar bear is a wonderful swimmer and diver. In the capture of seals lying on the ice, it dives some distance off and, swimming underneath the water, suddenly come up close to the seals, cutting off their retreat to the sea.
3. A cow-boy from Arizona went to San Francisco with his dog which he left at a dealer's while he purchased a new suit of clothes. Dressed finely, he went to the dog, whistled to him, called him by name and patted him. But the dog would have nothing to do with him in his new hat and coat but gave a mournful howl. Coaxing was of no effect, so the cow-boy went away and donned his old garments, whereupon the dog immediately showed his wild joy on seeing his master as he thought he ought to be.

Show the patient for an instant one of the cards with collections of figures, letters, pictures, etc., such as are illustrated below, and have him tell you what is on the card, giving the content in full and the relative positions of the different elements.

The following apperception test may be used if it seems desirable. In this test the patient is given a sheet on which is printed an anecdote, story or description, but in which certain words are left blank. The patient is to be instructed to go over the paper carefully and after having once gone over it to fill in the spaces with words that will appropriately give the meaning to the story.

1. Once upon a time — heard a — chirruping in the —. Ah, he said to himself, if I could — like that, how — I should be. So he bowed low to the —, and said, kind friend, what — do you eat to make your — so sweet? I drink the evening dew, replied the —. The foolish — tried to live on the same —, and died of —.
2. Monkeys are — and — creatures when —, but become — and — as they grow —, especially the males. They pass most of their time in alternate — and —; after a violent — they change to the other extreme, and behave as if they were the most — of creatures. Animals at one moment living in perfect — and — become in an instant deadly —, ready to — each other to —.
3. During the early centuries of Christian Spain the conditions of the — were such that every — was obliged to defend his — to the throne against the — of his family,

1 4 9

3 6
1 4

3 7 4
9 1 5

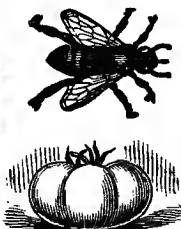
B N V

O T
R C

HOUSE

GREEN TREE

DOG
MOUSE
CAT



so that almost constant — were being waged among the nearest kin and it was practically impossible that several — of weak and incompetent — should not have been wrested from the throne.

Attention:

Summarize the results of the observations made during the examination of the patient. Describe the character of any apparent attention disorder, and if possible give examples to show the character. In the summary try to differentiate between what is known as "distractibility," wandering attention, or the shifting of the attention to successive new impressions, and the lack of, or the fluctuations of the attention such as is found in senile and alcoholic (Korsakow's syndrome) conditions.

Should there be an apparent fluctuation of the attention try one of the following tests, to bring out the condition in a more graphic manner.

1. Read to the patient the following series of numbers at the rate of one each half second, or the series of letters in the same way and have him tap with a pencil each time the number 6 or the letter C is read as the case may be.

4 3 6 8 5 9 6 3 4 6 5 2 4 7 6 5 8 6 7 2
 3 6 6 3 7 6 3 9 3 8 6 7 3 6 9 3 5 6 4 8
 8 6 9 4 6 8 9 4 6 7 9 7 8 4 6 8 5 9 8 6
 5 3 2 8 6 9 8 3 6 9 7 2 8 6 7 6 4 3 8 5
 7 9 2 6 5 7 2 8 6 2 8 7 6 9 6 4 3 7 2 8
 TCQNDCBK CJCH AFLCOSMB
 CRFKCLHDACJQSM TCCNFO
 BJCMKRCTAHCDLQCRNCOJ
 CACFKOQH CMLFDCSRCNTB
 SFCTJLCHNAQCRTCKCDBS

Note each time a letter or a number is not properly responded to, and see if there is a rhythm in the failure to make the response.

2. Have the patient tap on the tapping apparatus, which is a mechanical counter, for thirty seconds and record the number of taps that he makes in the different periods of five seconds.

Or, have him make taps on a sheet of paper to and fro for thirty seconds, and note how long it takes him to tap along one line.

Or, have him make the taps in the squares of a sheet of cross section paper (having each square about half an inch wide), noting how long it takes him to make the successive ten taps, in the total series of 100 taps.

Memory:

Summarize the results of the questions which indicate the memory grasp of the patient. Include under separate headings accounts of the following:

1. Recent and remote events.
2. Names of persons, including members of his family, the physicians, nurses and attendants, and other parties.
3. Date and time.
4. Places.

Should there appear to be any memory defect try the following tests.

1. Have the patient read aloud a number of four digits, or read the number to him, speaking each digit separately. This will give respectively the visual and the auditory memories.

5632	9764	3521
8629	5941	7368
6214	9826	5327

2. If the patient can retain all of the four digits try him with the six or eight digit combinations.

487631	736491	751924
955217	972864	249837
276384	845193	516724
45319628	19362874	29317586
35984271	92576438	83264519
97125684	63258914	87635219

3. Give combinations of three associated words and have the patient repeat them after you as well as he can.

Cloak, hat, and gloves.

Enemy, battle, and peace.

Station, train and conductor.

Deer, horn, and hoof.

Wall, brick, and ivy.

4. Another test that may be tried is the use of two or more pairs of associated words of which the patient is to remember the second one of the pair. The pairs are read to the patient, he is required to repeat them, and after the series (which may be made up of two, three, four or more pairs) has been gone over he is given the first word of a pair and asked what word goes with it. The following pairs of words may be used in any combination of two, three, four, etc.

Well—pump.	Game—sport.
Cent—dime.	Bridge—river.
Roast—stew.	Dust—sand.
Oak—pine.	Thumb—toe.
Drug—medicine.	Cow—horse.
Water—ice.	Red—brown.

Barrel—bottle.	Law—judge.
Porch—chair.	Duck—water.
Glue—wood.	Square—round.
Street—house.	Face—beard.
Soap—towel.	Actor—theater.
Book—paper.	Glove—hand.
Child—doll.	Potatoes—fish.
Friend—companion.	Stone—earth.
Bees—ants.	Tea—sugar.

5. Have the subject repeat the following, and record exactly what he says :
 - The alphabet.
 - The names of the months.
 - The days of the weeks.
 - The names of the seasons.
 - The Lord's prayer.
6. Examine the patient in regard to his memory of school subjects, especially geography and history.
 - Which is the longest river in the U. S.?
 - What is the capitol of the U. S.?
 - Name some of the most important countries in Europe.
 - Name the largest cities in the U. S. and in the different countries of Europe.
 - Give the dates of the most important wars of the United States, and with what countries were they fought.
 - Name some of the most noted presidents, etc., etc.
7. In addition to the anecdotes that were used in the apperception and apprehension tests, which give a good idea of the memory grasp, have the subject give the substance of one or more of the following sentences or anecdotes :

The game of base-ball is fast taking hold of the people of Canada, who hitherto have been satisfied with the English games of cricket and foot-ball.

The Hindoos believe that the gradual darkening of the sun during an eclipse means that the jaws of a dragon are gradually eating it up.

Without map or compass the swallows come back each year to the places that have previously sheltered them.

The advocates of universal peace will go to all sorts of extremes to get their views accepted, for they will fight those who dare to disagree with them.

Pen, ink, pencil and paper have been the most potent factors in the advancement of the world in every way.

Association:

The associations of the patient may be determined from the general examination, from the accounts of the stories used in the tests of apperception and apprehension, especially the test of filling in the blank spaces on page 19, from the mistakes made in answer to the memory tests 4 and 7. For more extensive tests the following series of words may be used. The patient should be instructed to say the first word or idea that comes into his mind when he hears a test word that is given him. It is advisable often to make note of the time between the giving of the test word and the response of the patient. This can be obtained sufficiently accurately by observing the second hand of a watch at the time of the experiment. In this work it is very important that the replies of the patient be recorded exactly as they are given. If

there seems to be no apparent connection between the association of the patient and the test word that has been given to him, try to get him to trace for you the connection that has gone on in his mind; for example, should you give him the word "apple" and he replied "foot," the connection is not one that can readily be recognized, but if on questioning you find that the word "apple" suggested to him a time when he was under an apple tree and he walked on a number of rotting apples with his bare feet, the association is more easily understood.

1. White. Red. Gray. Dark. Light.
2. Pain. Rest. Cold. Sweet. Beautiful.
3. Head. Poor. Man. King. Hair.
4. Chair. Bed. House. Lamp. Stairs.
5. Mountain. River. Sea. Sun. Star.
6. Tree. Leaf. Grass. Bush. Flower.
7. Luck. Sick. Hate. Fear. Right.

Thinking:

In a previous section the patient has described his feeling regarding his ability to think properly and easily. These feelings may or may not correspond to the actual state of affairs. There may be a feeling of ability without the ability of performance, and there may be the feeling of inability without any actual change in the real ability. The calculation tests of age, date of birth, etc., may be used to get some idea of the ability of the patient to think well, but these figures are so often used that it is not necessarily true that if he gives them correctly he retains his normal thinking ability. For further testing the following calculations are easy tests to apply.

Addition.

Add 73 and 22

Add 90 and 18

Add 84 and 25

Add 106 and 17

Add 137 and 64

Subtraction.

Subtract 7 from 63

Subtract 16 from 192

Subtract 24 from 87

Subtract 35 from 257

Subtract 19 from 96

Division.

Divide 63 by 7

Divide 45 by 5

Divide 132 by 11

Divide 192 by 16

Divide 15 by 3

Multiplication.

Multiply 7 by 9

Multiply 9 by 13

Multiply 12 by 15

Multiply 14 by 11

Multiply 8 by 13

In cases in which it is possible to give the following logical tests, these may very well be used to determine any defect in thinking. The patient is to be instructed to read carefully the passages which are given on the sheet, and to say whether or not the conclusion of each of them is correct. No attempt need be made to get him to name or to correct the logical errors, but if the corrections are volunteered they should be noted.

1. All roses are beautiful; lilies are not roses; therefore lilies are not beautiful.

2. Nothing is better than wisdom; dry bread is better than nothing; therefore dry bread is better than wisdom.
3. None but savages were in America when it was discovered; Hottentots are savages, and must, therefore, have been in America when it was discovered.
4. Repentance is a good quality; wicked men abound in repentance, and, therefore, abound in what is good.
5. The object of war is durable peace; therefore soldiers are the best peacemakers.
6. No soldiers should be brought into the field who are not well qualified to perform their duty; none but veterans are well qualified to perform their part, and, therefore, none but veterans should be brought into the field.

CHAPTER VIII.

PARANOIA AND PARANOID STATES.

PARANOIA.

General Characteristics.—Paranoia is a chronic, progressive psychosis characterized by systematized delusions of persecution, and usually hallucinations of hearing, and showing little tendency to intellectual impairment.

Etiology.—This disease occurs, probably exclusively, in persons predisposed by some form of hereditary taint. The hereditary taint may be due to various conditions in the ascendants, viz., psychoses, the major neuroses, pathological character, alcoholism. Sometimes an acute illness, worry or other condition of physical or mental stress may act as exciting cause, while onanism is said in some instances to play a part.

General Symptomatology.—When the term “paranoia” first came into use the number of cases included under it by some alienists was tremendous. It seemed as if the description of this new disease had solved all the difficulties of psychiatry, and large numbers of obscure and previously unsatisfactorily classified cases were included within its domain. Now, after years of experience with this disease type, the pendulum seems to have swung to the other extreme and we are beginning to realize that paranoia, strictly speaking, is a rare disease, but that there are many combinations which are known as paranoid or paranoiac states, and that these states arise in the course of other mental diseases.

The basis upon which true paranoia has been differentiated from other conditions has often been on the absence of intellectual impairment. When a paranoid condition was associated with marked intellectual impairment the diagnosis has been dementia precox. It seems to me very questionable

whether we are not really dealing with two extremes between which every possible transitional form may be found. It depends to some extent to my mind upon what we mean by dementia. The woman whose case I have quoted elsewhere, who expressed the idea that her husband was untrue to her, did not thereby show any signs of intellectual impairment or express an idea which inherently showed any evidences of intellectual impairment. When, however, she adduced as proof of this statement the fact that when she looked out upon the street in the morning following a snow storm of the night before she saw numerous foot-prints of a woman who had been to the house during the night to meet her husband, and without any additional facts presents this argument in support of her previous statement, it would seem that we are justified in saying that her judgment in this specific instance is poor, and when we find that all of her arguments in support of her idea are of a similarly flimsy and unwarranted character, we are warranted in saying that her judgment is impaired, and to my mind impairment of judgment, when permanent, is properly a symptom of dementia, and although this patient talks reasonably about most things, is acute to perceive, and under ordinary circumstances shows no outward signs of mental disturbance or impairment, yet I cannot see how we are to escape the conclusion that impairment actually exists. If this condition can be called dementia in its earliest manifestations, then its separation from the more marked conditions to which the term "dementia" is usually applied is a separation only in degree.

The weakness of judgment that the paranoiac shows, however, is not a weakness that appears to be equally diffused over the entire field of the mental operations. It would appear to be more or less closely associated with the delusional system. We must not on that account come too speedily to the old conclusion that a person may be insane on one subject and sane on all others. It is true the reasoning of the paranoiac often seems clear on subjects not connected with his delusions, but we must not lose sight of the fact that the delusion itself

does not constitute insanity—it is only its outward and manifest expression. In this respect Mercier very aptly compares the delusion to an island in the ocean. The island seems to occupy a position completely isolated, surrounded on all sides by water, but if the depths of the ocean be sounded it will be found that it is in reality but the summit of a mountain which reaches down into the depths of the sea to its very bottom and so establishes a connection by direct continuity with the mainland. So with the delusion, its isolation is only apparent, in reality it springs from the very foundations of the mental life.

Besides the characteristic attributed to paranoia, of not dementing, which has been discussed above, it has been claimed that the disease ran its course without emotional disturbances other than could be directly attributed to the delusions present. Wernicke maintains this general position by setting forth that while the content of thought is disordered, the form of thought or the process of thinking is preserved.

This theory of the disease harks back to the “faculty concepts” of the old psychology. If the thesis of the continuity of mental processes that I have maintained in the early part of this work is true, then such a state of affairs could hardly be conceived of as possible. As a matter of fact, I believe that a careful study of cases will show primary states of depression in the early stages and the symptoms of the early stages especially, to my mind, are more satisfactorily explained on this basis.

The symptoms of the early stages culminating in the systematized delusion of persecution are symptoms which lead up to and develop the *paranoiac character*. This paranoiac character is a character the essential trait of which is a general feeling, mood, or as it is sometimes called affect-tone of suspicion. If we conceive of the wave of consciousness as occurring in a sea of feeling, of affects, then we can understand how all of the perceptions of the outer world, received and bathed in this sea, must be affected by its nature. If the mood is one of suspicion, then all the experiences of life are contaminated,

and the world at large is only interpreted as the perceptions of that world are tintured by the predominant mood.

After all, it is the "feeling-mass" more than the intellectual processes that go to make up character, and the paranoiac character is what it is because this feeling-mass has become perverted. J. B. Pratt has well said: "For it is feeling alone that gives value to life. Sensation and ideation merely report on the facts. If man were only a cold intellect who saw and judged, one thing would be to him as valuable as another—in fact for him there would be no values in the universe but only truths. It is only because man has feelings, emotions, impulses, that anything in heaven or earth has value. Moreover, not only does the feeling back-ground create values; it also is often that part of a man's mental make-up which for others has value. What we love in our friend is not his sensations, nor chiefly his ideas and his reasoning power; it is principally that combination of indefinable psychic qualities—impulses, desires, likes and dislikes—which we call his disposition. So far, then, is the feeling-mass from being something which a man should hope in the course of evolution to get rid of, that as a fact, if he should get rid of it, no one would be able to find anything lovable in him, and he himself would be utterly unable either to love or even to value anything.

"In short, the feeling-mass is wider than the other departments of psychic life, and more closely identified with the self. A change in it means a change in personality. Sensations and ideas have a communicable and universal nature; this irrational residuum is peculiarly private and individual. It is the determinant of character—in one sense it *is* the character and the personality. From it the practical activity gets most of its energy and most of its guidance."

Special Symptomatology.—This disease usually occurs in young adults who quite often, if their history is carefully taken, have shown peculiarities during their childhood, manifesting themselves in a certain taciturnity, moroseness, or disinclination to associate with other children as freely as is usual. The

child may also have shown a tendency to make friends with older persons, stay at home and read and sew instead of play, and may have had a tendency to day-dreams and the building of air-castles. Very often, however, the history obtained will show none of these peculiarities.

For the purpose of description the disease may be divided into three stages, named in accordance with their most characteristic symptoms. *First*, the hypochondriacal stage or stage of subjective analysis. *Second*, the stage of persecution. *Third*, the stage of transformation of the personality.

In the first stage the symptoms already described, if present, become more marked, the patient becomes wrapped up in his own thoughts and uncommunicative, unusual feelings occur, headaches, dizziness, weakness, perhaps insomnia, with nervousness and restlessness, which he fails to understand, but constantly worries about—*hypochondriacal ideas*. This condition is associated with marked *emotional depression*, which in some degree is probably always incident to beginning paranoia. He soon begins to notice that people act differently towards him, when he goes in a room someone gets up and goes out, people on the street spit when they pass him, his employer has failed to say "good-morning" to him lately, people who are standing about here and there are talking about him and speaking of his condition and making disparaging remarks. Everything that occurs about him is interpreted as having some relation to himself—*delusion of relativity*. This condition continues, becomes more aggravated, the ideas are not corrected and the patient, by keeping by himself, fails to come into that normal touch with the environment which gives to acts and circumstances their proper perspective.

The hypochondriacal ideas and delusions of relativity become more constant and pronounced, the patient fears he is losing his reason, his health is being destroyed, and all for what purpose? what is the explanation of these conditions? why do people act towards him as they do?

The second stage of the disease is ushered in by the *delusion*

of persecution, which is the patient's answer to all these queries by finding, as he believes, that their explanation lies in the operation of some malign influence against him. About this time also *hallucinations of hearing* appear. Heretofore the patient may have thought persons standing apart were talking or whispering about him, or may have heard remarks made about him by persons who passed him on the street, but it is quite impossible to tell whether these were true hallucinations or merely falsely interpreted occurrences. Now, however, there is no longer any doubt; the patient hears actual voices which usually make disparaging remarks about him or even say grossly insulting and vulgar things to him.

The delusion of persecution, reinforced by the hallucinations of hearing, from now on occupies more and more the focus of consciousness. It becomes more and more definite, the malign influence is recognized as an organized attempt on the part of a secret society, perhaps the Free Masons, the Jesuits, the Mafia, the Catholic Church, headed by the Pope. The agents of the society are always near him and the many annoyances he suffers are the results of their machinations. They poison his food, inject noxious vapors in his room at night, send electric currents through him when he goes to bed, bawl all sorts of insults in his ears and in innumerable ways annoy him and try to end his life. New sensations and experiences are explained by some new device invented to torture him—*delusions of explanation*, and various occurrences going on about him are similarly woven into the warp and woof of his delusional system.

The delusions are now almost constantly dwelt on to the exclusion of everything else, everything in life, every conscious experience, falls into some relation with the central thought, the delusions are fully systematized, they have reached out their influences like the tentacles of an octopus throughout the mental life of the patient and exact their tribute of his every thought. During all this period of development, with the exception of the incipient stages, however, there has been very little emo-

tional abnormality. The only emotional disturbances are those naturally incident to the character of the delusions such as anger, vexation and the like.

At first the patient flees from his persecutors, going from place to place in his endeavor to escape, and finds temporary relief in each new place for a time until his enemies find him out. Keeping this up for a while until he finds it futile, he endeavors to protect himself from them and gets up all sorts of elaborate devices, depending, of course, upon the character of the delusion. The key-hole and the cracks about the door and windows are stuffed with papers, the bed insulated by having the legs set in dishes of water, the food carefully tasted and often discarded. Finally, all these means failing, in sheer desperation and driven almost frantic by the continuous persecutions, he turns upon and attacks his supposed enemies. Magnan speaks of these three stages by saying that at first he flees, then defends himself and finally attacks. (*Il fuit; il se défend; il attaque.*)

During this period of persecution the patient, when speaking of his persecutors, at first uses the pronoun "they." He is no more specific than this, but finally he may learn exactly who are at the bottom of all his troubles—*delusion of reference*. When he finds this out he at once becomes a dangerous lunatic, liable at any time to acts of violence of a homicidal character. These patients belong to the most dangerous class with whom we have to deal, especially because of the retention of their intellectual faculties.

After this condition has continued indefinitely the third stage of the disease may supervene. The patient develops *ideas of self-importance*. These ideas may come about, according to Magnan, in one of three ways. First, spontaneously. Second, through the mediation of the hallucinations—the voices, for example, telling the patient that he is some great personage. Third, as the result of logical deduction—if so many people, such powerful organizations are interested in his downfall he must indeed be some great personage, rightful heir to a throne, or

inheritor of vast estates. The development of this idea of self-importance, noble descent and the like constitutes the transformation of the personality characterizing the third stage of the disease.

As completely as the delusion of persecution occupies the field of consciousness at this time and as thoroughly as it may be systematized, we find in this as well as in the second stage still further evidences of elaboration of the false beliefs, with their projection into the past life of the patient even as far back as his childhood—*retrospective falsifications*. In the light of the recently acquired facts many experiences of his early life, which heretofore have seemed mysterious, find their explanation. His so-called parents are not his true parents, and he knows now that the strange woman who used to visit the house and always kept her face heavily veiled must have been the emissary of his royal father—*retrospective explanatory delusion*. The whispered conversation of his parents after these visits had reference to him, and the glances of the servants showed that they suspected something strange about him—*retrospective delusions of relativity*. Often the patient recalls remarks that were never made, occurrences that never happened in further support of his false beliefs—*retrospective falsification of memory*.

With the development and elaboration of these ideas of self-importance the general attitude and appearance of the patient change. From being suspicious, resentful, irritable and antagonistic, he becomes more complacent and self-satisfied. He is a great personage who will shortly be proclaimed as such to the world. Often, too, he will tell at great length of the various methods used by his persecutors, only to show his wonderful sagacity and prowess in defeating their ends.

This *transformation of the personality* is the natural result of what has gone before. We have traced our hypothetical case through the hypochondriacal stage of disorder of the somato-psychic consciousness and seen in the second stage the systematized delusion of persecution gradually grow from

an insignificant beginning to a state in which it dominates, to the practical exclusion of everything else, the consciousness of the individual. This delusion involves, in the main, the allopsychic consciousness. It is not strange, then, that the remaining space of the autopsychic consciousness should finally be encroached upon. (See Chapter VI. Transformation of the Personality.)

The above description of paranoia would indicate a degree of regularity and definiteness in its evolution that the facts do not always warrant. The disease may become stationary at any point and the third stage in many cases is never reached. The symptoms of the first stage are found in the second, and these in turn in the third, although here the general mood and ideas of self-importance may dominate the picture. The development and elaboration of the disease is by a continuous addition rather than a substitution or modification of symptoms.

Some authors would describe a fourth stage of dementia. This, however, does not belong to the disease picture proper. The disease does not tend toward marked mental deterioration, although a mild degree of this condition may supervene in cases which have extended over a long period of time, especially as a result of senility. The patients, aside from the influence of their delusional system and the disorder of the sensorium, comprehend correctly their environment. They are not disoriented, and there is no clouding of consciousness, while their memory is often remarkable. Their delusions, however, are built upon and result in reasoning processes which show well-marked *weakness of judgment*, and this is especially so with reference to the idea of self-importance of the third stage. In this sense the third stage may be said to usher in signs of intellectual impairment.

Varieties.—The disease, instead of running the regular course above described, may show certain variations. Aside from becoming arrested at any given point, as already mentioned, the principal one is the early appearance of ideas of self-importance which may even occur contemporaneously with

those of persecution. Ordinarily, however, the several varieties are clinically differentiated because of the special content of the delusional system.

In the first place, paranoia may be classified on the basis of the presence or absence of hallucinations. So we have *paranoia hallucinatoria*, in which the hallucinations play a prominent part in the elaboration of the delusional system, and *paranoia combinatoria*, in which hallucinations do not occupy a prominent place or are altogether absent, the delusional system growing on the basis of idea-association.

The disease has also been classified into *early* or *original* *paranoia*, beginning even in childhood, and *late* or *acquired* *paranoia*, beginning late in life. Original paranoia occurs only in patients with very marked hereditary taint, and as Sander—who originally used this term—most admirably expresses it, the abnormal condition develops and unfolds itself in the same way that the normal mind develops and unfolds itself in the normal individual. Acquired paranoia, on the other hand, develops in an individual, who, except for his hereditary taint, may appear to be a normal person. While in late paranoia there is, as we have seen, a transformation of the personality, a change in the individual wrought by the disease process; in original paranoia there is not a transformation but an unfolding of a personality which is from the beginning pathological.

The *querulous* or *litigious* variety occupies a position midway between the original and acquired, and, like the original hallucinations, do not play a prominent part in its evolution, and also like the original, the delusions often contain elements of truth and often develop on the basis of some actual occurrence, more particularly the loss of some law suit. They are notable not only because of their apparent—in fact their real—adherence to facts, but for their convincing character.

Bianchi would classify the disease upon the basis of what he terms the primitive emotions—suspicion, ambition, love—which determine the three classic varieties: the persecutory, the ambitious or proud, and the erotic. He says on this point:

"In paranoia the fundamental emotions, which are also an expression of the altered kinesthesia, are emotions of a primitive character, such as suspicion, vanity, pride and fear—fear of injury and destruction, desire of exaltation and of grandeur of one's own ego. Therein lies the reason of the egocentric attitude of the paranoic subject (Specht). These primitive emotive states, intrinsic to the personality and proportioned differently in different men, determine currents and orders of ideas and actions in the evolution of the personality, which succeed, in various ways, in protecting or expanding the personality in a rigorously logical fashion. When those emotive states exceed the normal measure in intensity and persistence, they exercise an absolute dominion over the consciousness, until, through their having once assumed government over the senses and the intellect, there is an alteration of the perception and the apperception processes that insure normal relations between the individual and his environment."

A very practical classification of the disease is based upon the prevalence of grandiose ideas. Thus the type of disease such as I have described, in which the delusions of persecution are the most prominent features, would be classed as *persecutory paranoia*, while those in which grandiose ideas predominated would be classed as *expansive paranoia*. This latter group includes that host of unbalanced dreamers who are frequently known as "cranks," and who may be further classified on the basis of the content of their delusional system into *inventive*, *reformatory*, *religious* and *erotic* varieties. These patients have made some wonderful invention, are destined to carry on great reforms, are the vicegerent of God, or believe themselves beloved by some royal person. In these cases the idea of self-importance quite obscures the persecutory ideas, which, if they are present at all, become a negligible quantity, while in many cases they are not present in the true sense of the term. A reformatory paranoiac may be prevented from doing as he wishes by the civil authorities, whereupon he believes himself persecuted, but this is not a true delusion of

persecution in the sense this term has been used in describing paranoia. When such patients are interfered with they usually resent it and often rebel. They are then designated as *persecuted persecutors*.

This whole anomalous group of paranoiac psychoses developing upon a markedly predisposed background, in individuals of a strong hereditary taint, has been designated by the French as the *insanity of degenerates*.

Course and Prognosis.—True paranoia is never recovered from. The insanity of degenerates is not infrequently interrupted in its course by intermissions of variable length; in fact, Magnan says recovery often takes place.

Differential Diagnosis.—The principal disease with which paranoia is apt to be confused is *dementia precox paranoides*. The principle of differentiation rests with the occurrence in this form of dementia precox of signs of deterioration foreign to the classical type of paranoia. The deterioration, however, may not be very apparent in the early stages and time may be required to make the differentiation.

Paranoid states occur in many other psychoses—see below.

Pathology.—Strictly speaking, paranoia has no pathology. The hereditary taint is sometimes manifested by errors of development—giving rise to malformations generally known as *stigmata of degeneration*; abnormalities in the course of the cerebral vessels and asymmetries and abnormalities of gyral configuration have been noted.

Treatment.—There is no medical treatment for this disease. In general it may be said that these cases require to be cared for throughout their lives in an institution. They are peculiarly unfit to live in the outside world, and sooner or later, as a result of their general conduct or some overt act, are committed as insane.

The paranoiac character differs in different persons perhaps as much as the normal character. While many paranoiacs are dangerous and should be kept confined, others show no dangerous tendencies, are perhaps naturally timid and never would

do any harm, while still others may become resigned. While many of these latter class may often get on for a time, at least outside of an institution, they should be kept under constant observation, so that changes in their delusional system and in their character of reaction can be noted.

PARANOID STATES.

The adjective *paranoid* or *paranoidiac*, meaning like paranoia, is applied to mental states superficially simulating paranoia, specifically mental states showing more or less systematized delusions of persecution and hallucinations of hearing. Many different mental diseases may present paranoid conditions and not infrequently paranoid states are met with that are quite difficult to definitely diagnose so that the term is in frequent use.

These paranoid states are met with in dementia precox, paresis, the toxic psychoses, the psychoses of the involution period, manic-depressive insanity, and in fact in practically all of the various types of mental disease. In general these states are transitory and while presenting the various symptoms of the disease in which they occur are usually further characterized by a less stable and coherent organization of the delusional system. The paranoid states that occur in hypomania are particularly difficult to diagnose, while those which follow other psychoses, especially the toxic and infectious, such as alcohol, cocaine, typhoid, are particularly persistent, often lasting for many months. These conditions have given origin to the term *secondary paranoia*.

The question of whether or no there exists an *acute paranoia* is still undecided. The existence of paranoid states in some of the acute, curable psychoses has in the past undoubtedly been largely responsible for the belief in an acute form of the disease and the Germans have long described such a form under the name of Wahnsinn. Later, however, since the true significance of paranoid states has been better understood and their occurrence in the acute, curable psychoses

known, there are still those who believe in an acute, curable paranoia different from any of these conditions.

Wahnsinn or more fully *hallucinatorische Wahnsinn*¹ as it is called is described as a psychosis presenting marked disturbance of the sensorium—hallucinations—which leads to the development of delusions which are dependent upon them and have only a loose connection with one another, changing with the shifting character of the hallucinations. This condition exists with clear consciousness and also a more pronounced disorder of affect than in paranoia proper. Kraepelin would classify the depressed forms as varieties of involution melancholia, the exalted cases as paranoid states of hypomania, and certain other conditions following alcohol and cocaine as dependent on these poisons—the cases I have previously mentioned as often spoken of as secondary paranoia. The diagnosis would have, of necessity, to be made with great care and by the method of exclusion.

¹ The German term *Wahnsinn* is used only because it has no exact English equivalent.

CHAPTER IX.

MANIC-DEPRESSIVE PSYCHOSES.

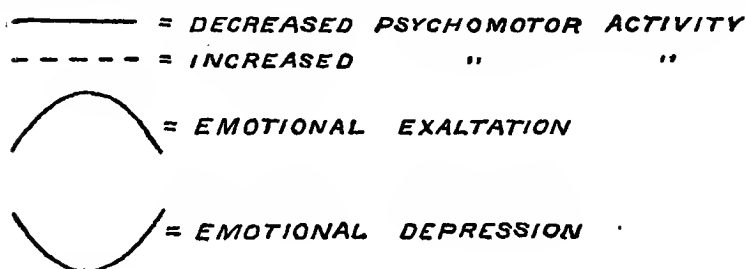
In the older psychiatry a large number of the cases were classified as mania and melancholia. Practically all excited and exalted cases were included under the designation of mania while all the depressed cases were classed as melancholia. These two psychoses were generally conceded to be recoverable, the percentage of recoveries being figured as high as ninety by some. Then again certain other cases were recognized as having a periodic tendency in which attacks of mania and melancholia followed each other in regular succession. These cases were conceded to be incurable and the anomalous circumstance was recognized of an incurable disease being constituted of phases each one of which consisted, apparently, of an attack of the most curable form of mental disorder.

This condition of affairs continued until Kraepelin came forward with the key to the mystery by demonstrating that circular insanity manifested certain fundamental symptoms which were characteristic of mania and melancholia and also that mania and melancholia rarely occurred in isolated attacks but, on the contrary, during some part of their course exhibited symptoms of the opposite condition—mania of melancholia and melancholia of mania. This analysis gave rise to the conception of a single disease of which mania, melancholia, and circular insanity were so many different manifestations, and to this disease Kraepelin gave the name of manic-depressive insanity—the name indicating the principal phases of its occurrence.

Etiology.—The principal cause is hereditary taint, and it is noteworthy that this disease is often found in families, the

constitutional condition as the basis on which it develops appearing to be directly transmitted. Although concomitant conditions of stress often occur with the first and even subsequent attacks and appear to condition them, still these attacks are much more noticeable for their apparent lack of cause, their spontaneous onset thus evidencing their deep-seated constitutional origin.

General Symptomatology.—Before proceeding to a description of the different forms of manic-depressive insanity it may be well to pause for a few moments and study the following diagrams which endeavor to set forth graphically



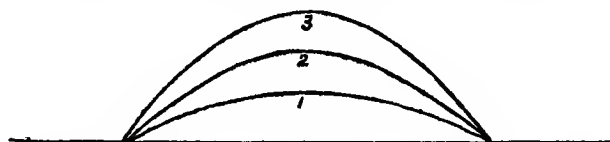
how the various symptoms of the disease may be combined. If note is first made of the general way of representing the opposed conditions of the psychomotor and emotional states what follows will be perfectly clear without further explanation.

In describing this disease the two principal stages—the *manic* and the *depressive*—will be described first, then the various forms of *periodic insanity*, and finally certain irregular and unusual combinations of symptoms known as the *mixed states* will receive attention.

MANIC STAGE.

This stage of manic-depressive insanity manifests itself by three cardinal symptoms, viz., (1) *Flight of ideas*. (2) *Psychomotor excitement*. (3) *Emotional excitement*. These symptoms may manifest themselves in any degree of severity

and the content of consciousness may vary widely in different cases. For purposes of description it is convenient to divide

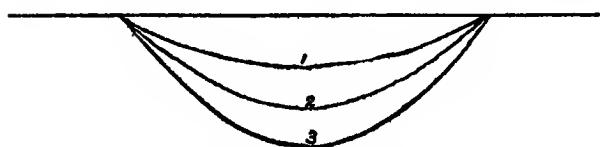


BASE LINE = NORMAL

1 = HYPOMANIA

2 = ACUTE MANIA

3 = HYPERACUTE MANIA



BASE LINE = NORMAL

1 = SIMPLE RETARDATION

2 = ACUTE MELANCHOLIA

3 = STUPOROUS MELANCHOLIA

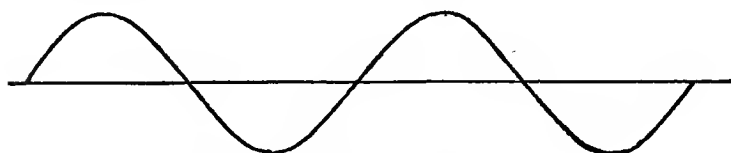


RECURRENT MANIA

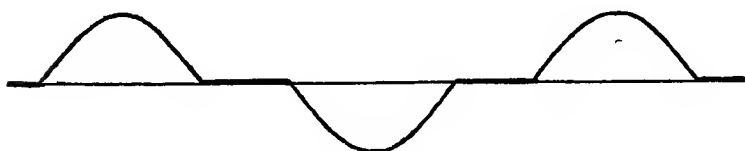


RECURRENT MELANCHOLIA

mania into three grades in accordance with its severity. These grades also answer very well to the clinical types met with although it must of course be understood that the mania



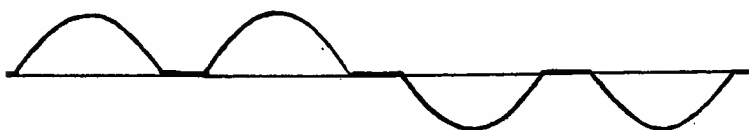
CIRCULAR INSANITY



ALTERNATING INSANITY

may be of any degree of severity and that in a given case it may manifest itself in different degrees at different times during the same attack.

Hypomania is the term applied to the mildest of these degrees of maniacal excitement. Here we have in the simpler cases a disorder of the process of thinking rather than in the content of thought. The separate ideas and even acts

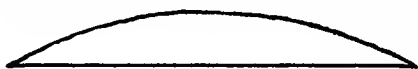


ALTERNATING INSANITY OF DOUBLE PHASE

may not be unusual and yet when taken in their ensemble are seen to be distinctly abnormal. The example given by Mercier illustrates this very well. He says of a case of this sort "Its subject rises early, full of schemes of business or



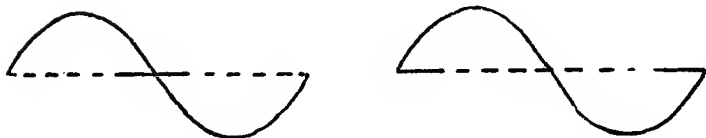
INSANITY OF DOUBLE FORM



MANIACAL STUPOR



AGITATED DEPRESSION



*MIXED STATES OCCURRING ESPECIALLY AT
THE TRANSITION FROM ONE STAGE TO ANOTHER*

pleasure. He fusses noisily about the house, indifferent to his disturbance of other people's slumbers. He is very impatient of delay, he cannot wait a minute for anything that he wants, and if it is not forthcoming on the instant, he flies into a rage. The course of the post is not expeditious enough for him. He sends his letters by telegraph, and his letters are extraordinarily numerous. They would be numerous in any case, but their number is doubled, and more than doubled, by the frequent changes of his mind, and by the impulsiveness

with which he acts upon every passing whim. He determines to make some purchase, probably a very unnecessary one, but one for which he can adduce twenty plausible reasons, and he writes to tell his solicitor that he will call the next morning. Scarcely is the letter posted when he sees that he will attain his object more quickly by asking his solicitor to lunch. He telegraphs accordingly. Before his messenger returns, it occurs to him that he had better ask the vendor to lunch also. Another telegram is despatched, and since he cannot entertain more than one visitor at his club, another must be sent to the solicitor to announce the change to a hotel. Then he remembers that he has been drawing heavily of late on his banking account, and that he may not have the necessary funds available. Another telegram to the bank. But if there are insufficient funds in the bank, he will have to sell stock to raise the funds; another telegram to his broker. Then he determines that it will be better to pledge the stock to the bank rather than to sell it. More telegrams to the broker and to the bank. The broker won't like the contradictory orders—never mind; ask him to dinner—ask them all to dinner. Put off the lunch and have a dinner instead, and ask the solicitor, the vendor, the banker and the broker. Yes, and why not Smith and Jones and Robinson as well? More telegrams; and then, since two out of the three of the invited guests decline, the whole thing is postponed, also by telegraph. Meantime, in the intervals of telegraphing, his hands have been full. He has been constantly ringing the bell and giving orders—giving them, modifying them, and countermanding them—constantly wanting something fresh, running up and down stairs, writing letters, haranguing this person and that, flying into a rage upon the slightest opposition, tearing the bell down on the slightest delay, and talking almost incessantly."

In this example the subject's acts might almost all of them be considered as normal with the exception of those due to undue irritability or anger. Aside from these each act is

consistently directed to some definite aim. The disorder is not in the content of thought but in the process of thinking and the disorder of process manifests itself by a rapid, too frequent change of direction.

In this condition we see a patient constantly active, busying himself about one thing and another, talking continuously meanwhile, often in a loud and rather boisterous manner, while emotionally, exaltation is manifested by good humor, a smiling countenance and increased self esteem, punctuated mayhap by attacks of irritability or impulsive anger with little or no cause. His confidence in his own ability is unqualified and is shown in the outlining of all manner of schemes of work, investments, business enterprises and the like. Flight of ideas is marked though not of high degree, the conversation changing at frequent intervals from subject to subject and the activities show a like characteristic, there being no consistent effort directed toward any one aim for any length of time. Letters are often written in great numbers and their contents exhibit the same characteristics as do the speech and conduct. The patient is fully oriented, there is no clouding of consciousness nor delusions. In spite, however, of the lucidity and apparent abundance of energy the real efficiency of the individual is greatly reduced largely because of the lack of consecutiveness in application. Ofttimes the picture is complicated by the addition of symptoms due to alcoholic indulgence which is very common in patients in this condition, many of whom show marked moral delinquencies and because of their lucidity and facility of expression often elude the authorities, being at once discharged after examination when apprehended because of supposed insanity.

The next grade of maniacal excitement presents perhaps the most characteristic picture of this stage and is the classical condition of *acute mania*.

In this condition the flight of ideas is well marked even to the point oftentimes that the train of thought is apparently quite incoherent. Distractibility is a prominent feature and

the almost constant flow of ideas frequently refer to something seen or heard in the environment. A tendency to rhyme is not infrequently present and words heard by the patient are often woven into or form the starting point for these rhymes which may be nothing more than a string of words of similar sound (clang association). It is quite remarkable how such a patient who is apparently paying no heed to what is going on about him will catch a chance word or phrase uttered by some one, perhaps a considerable distance away, and introduce it into the stream of his conversation.

Consciousness may be more or less clouded and there is often some disorientation; this is especially noticeable for persons. This condition, however, is largely if not wholly due to the disorder of attention. The patient does not adequately perceive the environment, therefore a comprehensive idea of it is not obtained and in the rapid and transitory survey a superficial quality is often emphasized—perhaps some resemblance—and the person or object is mistaken. In this way the nurses and physicians are called by the names of friends or relatives and the surroundings are said to be those of some place the patient has been in the past. These errors are, however, often not firmly fixed and the patient may correct them spontaneously at times.

The disorders of attention, flight, distractibility are all elements in producing a content of consciousness in which all ideas have the same value. Nothing is attended to long enough to give it an importance greater than other experiences, ideas are voiced first about this subject and then about that, the patient changing from subject to subject without attaching more importance to one than to another, without being led by one idea to the exclusion of others—there is a *leveling of ideas*—all ideas reach the same level of importance in consciousness.

Hallucinations are not infrequent. They are usually elementary in character, simple and transitory.

Delusions may also be present but are not fixed but change-

able, coming and going. They are usually of a grandiose character, but lack the element of extreme improbability or absolute ridiculousness often seen in conditions of dementia. Occasionally a paranoid state develops with quite stable delusions of persecution. This condition is difficult to diagnose especially if the excitement is of a mild character as in hypomania.

The psychomotor activity is constant. There seems to be absolute inability to keep quiet—*pressure of activity*—the patient runs and jumps, turns somersaults, waves the arms about, tears up his clothing, destroys plants, breaks furniture, howls and yells all night long, going almost absolutely without sleep, often showing marked sexual excitement. The excitement is so great that these patients do not even take time to eat, food placed before them is perhaps tasted and then thrown about like everything else that comes in their way, so that emaciation soon becomes marked. In less marked degrees of excitement, however, it is common for this class of patients to gain in weight.

The *emotional exaltation* is marked and shown by boisterous laughter and remarks showing exaggerated ideas of self esteem and personal prowess. The patients are apt to be very irritable in this condition and are constantly fomenting trouble of some sort on the wards where they are confined.

The third grade of maniacal excitement is merely a more aggravated form of the condition just described and may be called *delirious mania*.

In this condition the flight is so great as to amount to almost complete incoherence, the activity is unrelenting, consciousness is more clouded and hallucinations are more in evidence. The condition leads to great exhaustion and physical depletion, and it frequently happens that, as a result of slight scratches and bruises obtained during the period of great motor restlessness, and which are not allowed to be properly dressed, local areas of suppuration develop, so that a mild septicemia with some temperature complicates the picture. Ex-

haustion and toxemia are both now added, the clouding of consciousness becomes profound, a true delirium takes the place of the flight, marked by absolute incoherence and complete confusion (*secondary confusion*) with transitory and elementary sensory falsifications.

The *acute delirious mania*, which used to be described as always and invariably fatal, was probably in a certain proportion of cases an aggravated form of the manic stage of manic-depressive insanity. It is probable, however, that it was more usually an acute psychosis associated with some serious, though often unrecognized, condition of the internal organs, as *i. e.*, an acute nephritis or pneumonia. It can be readily seen how such conditions might be overlooked in patients so wildly excited and autopsies of late have tended to show that this was the case.

DEPRESSIVE STAGE.

This stage of manic-depressive insanity also manifests itself by three cardinal symptoms, each one of which is opposed to the corresponding symptom of the manic stage, viz., 1. *Difficulty of thinking*. 2. *Psychomotor retardation*. 3. *Emotional depression*.

This set of symptoms may, as in the manic set, manifest themselves with any degree of severity—and as for that stage it is convenient to describe them in three different grades.

The mildest grade of depression is called *simple retardation*. The word retardation here, as frequently, refers not only to psychomotor retardation but to the difficulty in thinking, as the two phenomena are in reality similar manifestations in different spheres. This designation—simple retardation—is significant, too, because the emotional state is not indicated and as a matter of fact is of less importance diagnostically than the retardation.

These patients move slowly, speak slowly and in a low tone, often only just above a whisper, and by preference answer questions in monosyllables. They sit about with folded hands

doing nothing; they are incapable of effort of any sort, even reading is not indulged in, for, aside from the effort required, what is read is not assimilated, ideas are not called up by what is read, and the continuous effort is impossible.

Emotionally the patient is depressed but the depression may not be at all marked and in these cases the facial expression fails to indicate it at all. They often realize their mental invalidism and are distressed by it. Consciousness is not clouded and they are fully oriented.

The next grade of depression is the ordinary *acute melancholia*. This condition of depression, however, may be further qualified by the adjective depressive—*acute depressive melancholia*—to indicate that it is a stage of manic-depressive insanity and to distinguish it from involution melancholia, which is an *affective melancholia*. In the former the retardation is the distinctive feature; in the latter the emotional depression.

In this condition the three cardinal symptoms of depression are manifested in a much more pronounced way. The patients are inactive, sitting by themselves, showing little or no tendency to associate with others, their movements are very slow and deliberate, and it often takes a considerable time to initiate them (initial retardation). The speech is similarly affected; it is slow, preferably monosyllabic, and often almost inaudible. Initial retardation is very noticeable here also. The emotional depression is profound and is indicated in the attitude which is in general one of flexion, the hands lie limp in the lap, the head is inclined forward so that the chin rests on the breast, the shoulders are also bent forward and the whole attitude, together with the facial expression, indicates sadness.

In this condition delusions are the rule and are typically *self-accusatory*. The patients think themselves responsible for all the sin and wickedness or privation and suffering in the world; they are the cause of the unfortunate condition of their fellow patients, have themselves committed some great sin, and are forever and absolutely lost. They very often, too, have *hypochondriacal ideas*, think they have some incurable

disease, that their organs are decayed, something has happened to their brains, their bowels are stopped up and the like.

The changes in the organic sensations produce peculiar feelings which are variously interpreted, often leading to more or less *disaggregation of the personality*, the strange feelings being supposed to indicate mysterious changes going on within the body. A patient will keep going to the looking-glass to look at her eyes, averring that they look like cat's eyes, that they are cat's eyes. It is only a step from this condition to a belief in the complete transformation of the personality or a belief that another being has taken possession of their body and expresses itself in their acts.

Hallucinations also occur, but consciousness is usually quite clear and the patient may be fully oriented. However, a marked degree of clouding is not uncommon and hallucinations and delusions may be the outcome of insufficient perception of the environment, as in the instance previously cited of the patient, who, profoundly depressed, was so wrapped up in her sufferings that she did not perceive the nurse bring the tray of food and set it down beside her and when her attention was called to it thought it must have been placed there by some mysterious agency.

Physically there is almost invariably present constipation, coated tongue, indicanuria, poor appetite, loss of weight, with disturbed sleep and poor circulation, with cold and often blue extremities.

The third and most marked grade of depression is *depressive stupor*. In this condition the retardation has proceeded to such an extent that the patient does not speak. He lies in bed, often for days at a time, in this almost absolutely inactive state, having to be fed and his every want ministered to.

During this condition of great retardation the patient may be suffering from the most dreadful delusions and hallucinations. This condition of mind may be shown by an anxious expression of countenance, but its details can only be learned after the patient recovers sufficiently to describe them. The

hallucinations present themselves to the patient as in a dream and there is a considerable degree of clouding of consciousness present, to some extent due to the absorption of the patient's attention by these hallucinations.

This condition of stupor is common in the course of depressive melancholia and occurs as an episode more often than as a distinct form of the disease.

THE PERIODICAL PSYCHOSES.

Under this head are included those forms which have been severally described as recurrent mania, periodic mania, intermittent mania, recurrent melancholia, insanity of double form, alternating insanity, etc.

All of these insanities are merely different manifestations of manic-depressive insanity, the manic and depressive stages being represented in various relations, often separated by a lucid interval. Thus recurrent mania would be recurrent attacks of the manic stage separated by lucid intervals, similarly for recurrent melancholia, while alternating insanity would consist of manic and depressive attacks, each followed by a lucid interval; circular insanity, on the other hand, being cycles of manic and depressive stages without intervals of separation, while insanity of double form would consist of cycles of excitation and depression, each cycle followed by a lucid interval. Other varieties might be described, but it suffices to say that the three stages—manic, depressive and lucid interval—may be combined in any possible way, and that further in a given case any degree of the manic or depressive stages may occur.

THE MIXED STATES.

The mixed states are forms of manic-depressive insanity in which the three cardinal symptoms of the manic and depressive stages are mixed so that the resulting state is not either one. The best recognized are: (1) *Maniacal Stupor*, (2) *Agitated Depression*, and (3) *Unproductive Mania*. It will suffice to merely mention the symptoms of these three groups and to say that still others are possible.

Maniacal Stupor.—Emotional exaltation, decreased psychomotor activity, difficulty of thinking.

Agitated Depression.—Emotional depression, increased psychomotor activity, flight of ideas.

Unproductive Mania.—Emotional exaltation, increased psychomotor activity, difficulty of thinking.

Still the possibilities are not exhausted. It is quite uncommon to see any one of the conditions already described continue pure from the commencement to the end of the attack. In the manic stage symptoms of depression not infrequently crop up and occupy the field temporarily, while during the depressive stage it is quite as common to note transitory periods of excitement. Then it is quite common for manic attacks to be preceded by a longer or shorter attack of depression, and sometimes such a period of depression follows, not infrequently but partial depression, of the type of unproductive mania. The depressive stage shows similar variations, more particularly is it followed by a short period of exaltation. Then, again, at any stage of the disease a mixed state may crop up for a time, so that we may see during the course of the manic stage psychomotor retardation occur or during the stage of depression emotional exaltation may develop, while in the various forms of periodical insanity it is quite the rule to find these mixed states at the transition places from one stage to another, all of the symptoms of one stage not equally and contemporaneously graduating into their opposites. Thus during the course of a circular insanity the affect may change from depression to exaltation before the psychomotor retardation has given place to increased psychomotor activity, thus producing a temporary mixed state.

Course and Prognosis.—The individual attacks vary in duration from a few days to several months, some attacks, however, being greatly prolonged. Recovery from the single attack is the rule, while the likelihood of subsequent attacks is quite certain. The prognosis for this disease is therefore bad as to ultimate recovery, although good for the separate attacks.

Sudden onset is, on the whole, rather indicative of as sudden recovery and future attacks may be presumed to follow, in general, the course of the past ones. As the years go by the attacks are apt to recur with greater frequency, the lucid interval becoming shorter and shorter, though even after a great number there may be no evidences of mental deterioration unless, perchance, the reduction of senescence has supervened meantime.

Differential Diagnosis.—The manic stage may be confused with the excitement of dementia precox. The presence of signs of deterioration in this latter disease, however, will usually make the diagnosis, though there are cases that are extremely difficult to differentiate and considerable time must be allowed to elapse before a diagnosis can be made.

The depressive stage is more apt to be confounded with the melancholia of the involution period: particularly is this true of the mixed state of agitated depression.

The excited and stuporous states of catatonia may be confounded. The excitement of catatonia does not show typical flight—the degree of incoherence is often out of all proportion to the grade of excitement. The stupor of catatonia is often associated with negativism and muscular tension, while the face is either expressionless or perhaps grimacing. In depressive stupor the facial expression often shows the great mental suffering of profound depression.

The great general principle of diagnosis in this disease, aside from the presence of the classical symptoms, is the occurrence of repeated attacks. A history of previous attacks, perhaps, too mild to be considered as such by the family, will almost always be brought out by careful questioning. Next in importance to the history of repeated attacks is the history of attacks of both manic and depressive character, often showing at their onset or termination a short period of a mixed state.

It must not be forgotten, however, that all acute psychoses tend to recur. The individual once having suffered from mental disease has thereby a diminished resistance which often shows itself in future attacks.

Pathology.—There are no characteristic pathological findings in this disease. Patients dying during an attack invariably succumb to some intercurrent affection, so that any changes primarily produced by the disease would be greatly if not altogether obscured.

Treatment.—Many of the cases of hypomania require sequestration because of their tendency to commit alcoholic and sexual excesses and to make foolish financial ventures. Further than this, with perhaps the occasional exhibition of a hypnotic, no treatment is indicated.

The more excited cases have to be guarded particularly against exhaustion. To this end great care should be taken to see that sufficient food is taken and prompt recourse had to artificial feeding if necessary. For the insomnia hot milk at bedtime, hydrotherapy (hot pack or bath) and hypnotics should be tried in the order named. The coal tar products are the best—sulfonal, trional, chloralmid—while choral and bromides, unless indicated for some special reason, should be avoided. For the motor restlessness watch the patient and keep him from injuring himself. Resort may be had to the wet pack or the continuous bath. If these means fail hyoscyamine may be used hypodermically.

Three to five minims of the centesimal solution of the amorphous sulphate of hyoscyamine with an equal quantity of Magendie's solution usually works nicely. The patient should always be kept under close observation after such an injection and as the effects are quite disagreeable and often continue during the next day it should not be repeated unless absolutely necessary. The judicious use of hydrotherapy, however, will usually make it unnecessary to resort to restraint either mechanical or chemical. For the exhaustion, hypodermoclysis is often valuable.

In the depressed cases care should be exercised to see that sufficient food is taken, the emunctories watched, and the patient kept under continuous observation if there is any suspicion of a suicidal tendency.

CHAPTER X.

PARESIS.

General Characteristics.—General paresis is an organic disease of the brain of an inflammatory and degenerative nature, involving in the main the leptomeninges and the cortex and manifesting itself by certain physical symptoms and a progressive mental deterioration upon which may be engrafted various other symptoms of mental disturbance.

Etiology.—The etiology of paresis has long been a matter of contention but the opinion that in some way syphilis is a necessary pre-condition to the development of the disease is being more and more generally accepted. Perhaps the best way to state the problem would be to give in brief the separate arguments that make for and against a syphilitic etiology.

Paresis is unknown in regions where syphilis is unknown.

Under circumstances in which syphilis is rare paresis is likewise rare.

A history of syphilis is found much more frequently in paresis than in the other psychoses.

In juvenile paresis syphilis is always found in the parents.

Inoculation of paretics with syphilitic virus fails to produce syphilis. Conjugal general paresis occurs.

The presence of a syphilitic anti-body in the cerebro-spinal fluid.

The absence of signs of recent syphilis in paretics admitted to hospitals, though the irregular life so many of these cases lead in the early stages of their disease must certainly expose them.

A number of arguments against the hypothesis that syphilis is necessary for the development of paresis must not be lost sight of. For example:

All paretics do not present a history of syphilis. Neither do all syphilitics. Twenty per cent. of known syphilitics with well-marked tertiary lesions will not present a history of infection. It must not be forgotten, too, that the fact of syphilitic infection is not generally confided to friends and relatives, while at the time of admission to the hospital the patient may be in such a mental state as to preclude the possibility of getting a history from him.

Only a small percentage of syphilitics develop paresis: syphilis is the much more common disease. The percentage of paresis, however, is increasing markedly—partly probably because it is being much more frequently recognized.

Paresis is rare in certain countries where syphilis is common—Egypt and a few years ago at least in Japan. This would indicate, however, that other factors were required to reduce cerebral resistance and thus make it the *locus minoris resistentiæ*, on which the poison might produce its effect.

Anti-syphilitic treatment does not ameliorate the symptoms in paresis. This is probably due to the fact that the lesions are not directly syphilitic, but that in all probability some intermediate process occurs—thus syphilis is a necessary antecedent to this train of events only.

General Considerations.—Protean as are the manifestations of this disease, it is not strange that it should often go unrecognized during its early stages, yet there is probably no disease in which a failure to make a correct diagnosis is fraught with such manifest dangers, not only to the patient but to his family, his friends, or in fact to any one who, not recognizing his condition, may be induced, for instance, to enter into business relations with him. It is during this early period that those unfortunate occurrences are so frequent which might have been prevented if the true condition of the patient had been recognized.

Manifesting itself in its incipency by symptoms of defective intelligence, lack of judgment, memory defects, and moral obtuseness, we frequently see the most pitiful of pictures—a

previously respected citizen, father of a family, occupying an enviable social position, become at the height of his career an ardent worshiper at the shrines of Venus and Bacchus. Friends and relatives see nothing in these manifestations but the outcropping of original sin and are distracted by their inability to stay the career of drunkenness and vice upon which their erstwhile respected relative has entered. How many heartaches, how many pangs of anguish, how many blushes of shame could be spared the wife and children of such a man if the family physician did but recognize in these occurrences the symptoms of the onset of a mental disease and advise them what course to pursue.

An acute attack of maniacal excitement, the delirium of an acute toxic psychosis, are early recognized and even the slowly developing depression of the melancholiac, or the gradual change of character of the paranoiac, is usually appreciated before any serious harm can come. But here we have a disease, afflicting one when at the very zenith of his physical and mental powers, insidious in its onset yet capable of so changing the character in a few weeks that the previously honest, upright, moral, truth-loving, sober citizen becomes the votary of every form of vice, sinks to the depths of drunkenness and debauchery, and may even stain his hands in blood. But this is not the worst; all these things would ultimately find their explanation when the disease that was responsible for them came finally to be recognized and in the light of its diagnosis they would be excused. But it so happens that such a man as I have pictured is generally the guardian of the family exchequer. When this is the case it almost invariably happens that he wastes considerable amounts of money in his debauchery, becomes involved in unfortunate and ill-advised speculations, often at the solicitation of "sharpers" who only too well appreciate his poor judgment and gullibility—and finally, when he has succeeded in hopelessly entangling his business affairs and plunging himself into debt, he is committed to an institution and his family only then come to a realization that

they are penniless. The pity of it all is that it might have been prevented.

Before taking up the description of this disease, it is desirable to correct two pretty generally diffused misapprehensions regarding it. First, the diagnosis of paresis does not rest solely upon the mental symptoms. Paresis is a gross organic disease of the brain and its diagnosis must rest largely upon an appreciation of the physical signs which these changes bring about, particularly in the field of motor disturbance. Second, grandiose delusions of great wealth, power and strength are in no wise a necessary part of the disease, and while the so-called classical type of paresis does present such delusions, still there are reasons for believing that this type is becoming less frequent.

General paresis is divided into three periods. First, the prodromal period; second, the period of the fully developed disease, and third, the terminal period.

FIRST PERIOD.

Physical Symptoms.—Of these by far the most important are the oculo-motor and tendon reflex disturbances. Of the oculo-motor phenomena the pupillary abnormalities are most important. The loss of the *light reflex* with retention of the reaction to accommodation, the Argyll-Robertson pupil, is one of the most valuable diagnostic signs of beginning paresis, in the absence of tabes, as it frequently occurs very early. This symptom is present in 45 per cent. of cases. A sluggish reaction to light, probably the beginning stage of the Argyll-Robertson pupil, is found in 28.3 per cent., while a normal light reflex is present in 26.3 per cent. It is generally conceded, however, that the Argyll-Robertson pupil is much more common in the tabetic type of paresis—84 per cent. (Bumke).

In this connection the observations of Marandon de Montyel, published in June, 1905, are interesting.

This author has made observations on the light reflex upon 140 paretics from the beginning of the disease until death.

Fifty of the patients died in the first stage, 36 in the second, and 54 in the third. Of the 54 who lived through the entire evolution of the disease every one showed some abnormality at one time or another. Of the 140 patients, the reflex was always normal in 24 per cent., always abnormal in 17 per cent., and alternated in 58 per cent. Taken by stages, in the first stage, 42 per cent. were always normal; the second stage, 29 per cent., and in the third, 3 per cent. Those always abnormal: first stage, 24 per cent.; second, 34 per cent., and third, 85 per cent. Those which alternated: first stage, 32 per cent.; second, 35 per cent., and third, 11 per cent. In the first stage 6 per cent. were exaggerated in both eyes; 10 per cent. showed diminution and abolition of the reflex in one eye.

The author claims that this is the first complete series of cases and that the conclusions are much more reliable than those based upon a much larger number of isolated observations taken at random in the disease.

In examining for these conditions care should be taken that movements of accommodation are not mistaken for reactions to light by having the patient fix the gaze upon some object, the pupils should be equally illuminated, and the light should not be too bright, as under these circumstances a sluggish reaction might be masked.

Earlier still than loss of the direct light reflex, Berkley believes, can often be found loss of the consensual light reflex. The *consensual reflex* consists in the dilatation and contraction of the pupil of one eye when the other is shaded or exposed to direct light. It is quite possible, I believe, that the loss of this reflex is an early stage in the development of the Argyll-Robertson pupil and should always be tested for. This condition is usually found when a sluggish light reflex is present. Lewis claims that a still earlier symptom than any of these is the loss of the *sympathetic reflex* (the dilatation of the pupil on stimulating the skin of the neck). Sixty-three and six tenths per cent. of his cases showed this symptom, several of them with light and consensual reflexes.

Of the tendon reflexes the only one that need be considered is the knee-jerk. This may be normal, exaggerated, diminished or lost on one or both sides. The exaggerated reflex is most common, but I agree with Sommer in his statement that although this is so the absence of the knee-jerk is of much greater diagnostic importance, as there are many more causes for its exaggeration other than paresis than there are for its abolition. This sign, also, of course, depends for its importance upon the elimination of other possible etiological factors, especially tabes.

Mental Symptoms.—The mental symptoms of the prodromal period are often not appreciated at the time of their occurrence but only after the disease has been recognized in its fully developed state and then in looking back over the past few months various occurrences which were then not appreciated at their true value are seen in their real relation to the development of the disease.

In general, these mental symptoms are symptoms of a gradual change of character and of progressively failing mental and physical powers. There is a beginning failure on the part of the patient to continuously apply himself to his work and mental application of any sort soon brings on fatigue; memory is not quite so good and business engagements and the details of business are forgotten, the morale of the patient is quite apt to undergo alteration, and he may go to excess in drinking and associate with lewd women oftentimes openly, without shame, which is of course of most significance if contrary to his previous habits and ideals. In addition to these symptoms he shows poor judgment in his business relations and may not only risk large sums of money on hair-brained schemes, but may enter into all sorts of financial relations with persons and preserve no records to show what they were.

The appearance of the patient may also indicate the beginning of mental reduction: he is less careful about his personal appearance, wears soiled linen, has forgotten to button his vest, or to put on a necktie; his clothes are shabby and soiled, and in

general the degradation toward which his condition is tending has begun to show itself.

The mental symptoms, as already indicated, are symptoms of dementia, gradual, progressive, and more or less uniform failure of the mental powers upon which, it is true, may be engrafted the picture of almost any psychosis, but which inevitably and of necessity modify that picture in a way more or less characteristic of the underlying defect. This dementia manifests itself by failure of memory, defective judgment, inability to apply the mind consecutively for any length of time, and failure of the moral sense. The picture, from a mental viewpoint, is then one of a gradually deepening dementia, correlated with organic changes in the cerebral cortex, a true organic dementia. If upon this basis of organic dementia there be erected mayhap symptoms of excitement or depression, delusions of a hypochondriacal or grandiose nature, multiform hallucinations and illusions, a true delirium, these symptoms may properly be considered as unessential, accidental accompaniments. Thus a distinction is made between *paralytic dementia*, the direct result of the destruction of brain tissue and the fundamental symptom, on the mental side of the disease, and *paralytic insanity*, which consists of the various other symptoms of mental disturbance which may be engrafted on the demented background.

Developing as they do, however, upon a groundwork of dementia, we would expect them to manifest themselves differently than would be the case if their foundation had been originally an unimpaired mind. This we find preëminently to be the case. The grandiose paretic is not content with possessing a few paltry thousands but reckons his fortune by quintillions; he has solid gold carriages, harnesses set in precious stones and offers me each morning a fleet of ships to go around the world with, a million dollars and a thousand wives. The depressed paretic has caused the death of untold myriads of human beings, the hypochondriacal has no stomach, no bowels, no brains, etc. The delusions are marked by an absurdity

which can only result from the defective judgment and impaired intelligence of dementia.

These advanced conditions of delusional states are not usually found in this period of the disease but belong typically to the next, the period of full development. They are quoted here merely to illustrate fully what is meant by the statement that the dementia of paresis is the underlying and essential symptom. The demented type, without marked delusions or sensory falsifications, is the truly typical variety of the disease and the dementia the basal element of all forms.

This dementia may, however, not be apparent, it may be necessary to seek for its manifestations. In the very early stages the outward symptoms may be those of irritability and an untoward restlessness which may exhibit itself in many ways, as, for instance, useless business activity, fits of violent rage over trivial annoyances, and slight lapses of memory. If the reasons for all these things be inquired into, however, they will be found inadequate, often puerile.

We find often in this stage of the disease the beginnings of those speech defects which later are to become so characteristic. At this time there may be only a suspicion of the true paretic speech in the slight hesitation and occasional almost unnoticeable defect in a single word. Such patients often say test words, such as hippopotamus, communicability, circumstantiality, perambulator, quite correctly. It would seem that the defect is as yet so slight that the mere effort as the result of conscious attention is sufficient to overcome it. In such cases the test words should be combined into sentences to catch the patient unawares, as it were. I had a patient who said test words and phrases perfectly, yet there was a noticeable defect in an occasional word in her ordinary conversation. If she were asked, however, to repeat this word it was done promptly and correctly. If the speech defect is slightly more marked we may notice a slight tremor about the muscles of the mouth which is brought out by a difficult word or by emotional excitement. We should be careful in interpreting this tremor, how-

ever, as we find it present in many conditions other than paresis.

SECOND PERIOD.

Physical Symptoms.—The symptoms already described become more marked. The tremor especially is more in evidence and is of the fibrillary variety; the muscular weakness is noticeable and is in marked contrast to the well-nourished appearance of the patient, who quite characteristically takes on flesh in this stage; the Romberg symptom becomes much more marked, so that the patient may fall when the eyes are shut; the walk is more ataxic—especially in those cases that have begun with tabetic symptoms—the *tabetic variety*.

Characteristic of paresis, and occasionally but not frequently occurring early in its course, are the so-called *paretic seizures* which arbitrarily may be said to mark the beginning of the second stage. These may vary in severity and character from light syncopal attacks with pallor and temporary prostration to severe apoplectiform and epileptiform crises. The epileptiform attacks may be of the petit mal or grand mal type and without the history may be indistinguishable from true epilepsy.

These *epileptiform seizures* may be severe or slight and may involve any portion of the musculature and be accompanied by loss of consciousness or not. Occasionally a seizure is the first symptom to attract attention, and if the patient is alcoholic, it may under such circumstances be extremely difficult to make a diagnosis from alcoholic epilepsy. In general, the seizures last longer than the epileptic convulsion, and occurring in a person thirty to forty years of age without previous history of epilepsy or alcoholism, should at once suggest paresis. They are less apt to be associated with loss of consciousness. Occasionally these seizures last for days, the muscular twitching spreading from one part of the body to another, with clouding of consciousness but not complete unconsciousness all of the time. There may also be conjugate deviation of the eyes and in many cases a marked rise of temperature. Under such circumstances

pneumonia is particularly to be feared as a fatal intercurrent disease.

The *apoplectiform seizures* resemble in every way true apoplexy but the resulting paralysis is less apt to be permanent; in fact, it may entirely disappear in a most remarkable fashion in two or three days. It must not be forgotten that the paretic may, of course, have a frank apoplectic attack with resulting permanent paralysis. Transitory muscular paralyses, not infrequently of the extrinsic eye muscles, may, however, occur apart from these seizures. They are of short duration and clear up rapidly.

After a seizure it is usual to find that the patient is somewhat more demented. This is a distinguishing feature from epilepsy.

The causes of these seizures can not be satisfactorily explained, but they are perhaps due to local conditions in the brain of both toxicity and edema. They may be explained as a result of the extensive destructive process going on and the clogging of the lymph channels, so that the waste products cannot be removed readily.

Mental Symptoms.—The mental symptoms of this period are merely more exaggerated expressions of those already described. The symptoms of mental reduction—dementia—become more and more prominent. Memory fails utterly, so that the patient may not recall the location of his room that he has lived in for weeks; spatial, temporal and personal disorientation appear; a true occupation delirium may develop, the patient being often found carrying on his accustomed business operations oblivious of his surroundings; the simplest mental operations, such as adding a column of figures, have become impossible; the emotional deterioration is prominent, the patient pays no attention to his family and may not be affected even by the death of one of them. The speech disturbance which has been in evidence usually for some time becomes much more prominent. Syllables are reduplicated, words are left out or stumbled over, the voice is harsh and lacking in

expression. The writing presents similar defects and although sometimes the first few words are fairly done soon becomes almost absolutely illegible, a mass of scrolls, blots, erasures, or the patient may fail absolutely after several efforts to write at all.

In this fully developed stage the disease occurs in four types, viz., the demented, excited, agitated and depressed.

The *demented* type, as has been explained, constitutes the typical variety of the disease and is the type which has been thus far described.

The *excited* or *expansive* type is marked by more active symptoms and typically by *grandiose delusions*. This constitutes the so-called *classical paralysis*. These ideas of grandeur are marked, as already explained, by their absurd character, the patients believing themselves to have great strength, they can lift enormous weights, have fabulous wealth, so much money in fact that ordinary words are insufficient to express the amount and words have to be invented for that purpose, possess thousands of carriages with trimmings of gold and precious stones, fleets of vessels to take friends on tours about the world, write checks for millions and distribute them indiscriminately. One patient was importing carloads of bloodhounds, another's eyes were brighter than any light invented by man and even when shut served to illuminate the room about him. With these delusional symptoms there goes a great deal of motor unrest, the patient constantly busies himself drawing up schemes, writing checks, talking, etc., and suffers from insomnia.

The *agitated* type, sometimes called when extreme *galloping paresis*, is a more aggravated form of the excited type. In this condition the motor restlessness and insomnia is extreme, there supervenes marked emaciation, the delusions, while of the expansive type, are rapidly changeable and there is marked flight of ideas, with considerable clouding of consciousness. Some temperature usually coexists and the case runs a rapidly fatal course from exhaustion. All grades of excitement may, of

course, occur between the classical type on the one hand and the extreme form of the agitated type—galloping paresis—on the other.

The *depressed* type is often at first mistaken for melancholia, and this mistake is liable to be made unless the physical symptoms are borne in mind. The depression may take the form of *depressive melancholia* with retardation or of *affective melancholia* with anxiety and apprehension. Delusions are frequent and often take the form of *hypochondriacal ideas*—the bowels are stopped up, the blood does not circulate, and the like, or *ideas of negation*, the patient denying that he has a stomach, brain, soul, head, or even claiming that he is dead.

Sometimes states of depression and excitement alternate, so producing a *circular paralytic insanity*.

Delusions of a persecutory character may give a *paranoid type* to the symptom-complex, while in some cases the *Korsakow syndrome* is present.

THIRD PERIOD.

As the second period may be arbitrarily said to be ushered in by the paretic seizure, so the third period may be arbitrarily said to date from the time when the patient begins to soil himself.

Physical Symptoms.—All the physical symptoms become more marked at this stage. The tremor is constant, the ataxia has increased to such an extent that locomotion becomes dangerous or quite impossible and because of the friable condition of the bones falls are liable to produce fractures, muscular weakness is marked and emaciation becomes extreme. In this enfeebled condition the patient becomes bedridden, contractures quite often develop in the extremities and control of the sphincters is lost. Often a contracture of the neck muscles develops, so that the head is kept raised from the pillows in a characteristic attitude, and not infrequently the patient grinds the teeth for hours at a time. The paretic seizures become more frequent, bed sores develop over all the bony prominences

unless the most scrupulous care is taken to prevent them, exhaustion occurs and the patient dies in a seizure, from marasmus, or some intercurrent affection. .

Mental Symptoms.—In the mental sphere, as in the physical, there continues to be a progressive degradation. The dementia becomes profound, so that the patient may not even know his own name—he ceases absolutely to lead a mental life and leads only a vegetative existence. Often in the mass of stammering, stumbling, incoherent sounds a word here and there will indicate the remains of former delusions. It is, however, not uncommon for the symptoms of paralytic insanity to disappear in this stage and for the case to terminate in uncomplicated dementia. Finally, if no intercurrent malady supervenes, the patient sinks into coma and dies.

Pathology.—In opening the calvarium the dura is found abnormally adherent to the skull cap and internally may present areas of hemorrhagic pachymeningitis. The surface of the brain shows areas of congestion more frequently in the frontal, parietal and temporal regions than in the occipital. The leptomeninges are thickened, opaque, and along the lines of the great vessels contain a milky, opalescent fluid. In attempting to remove them they are found abnormally adherent, so that portions of the cortex are torn off with them—*decortication*—giving a worm-eaten appearance to the denuded surface. This appearance is very characteristic and is almost always present, except perhaps early or in the very late stages when a subpial collection of serum has raised the membranes from the brain so far they may be readily removed.

Microscopically there is found a round-celled infiltration of the adventitia of the vessel walls, the lymph sheath of the pia, and the brain substance, dilation of the lymph channels and filling and even blocking of these channels with round cells, leukocytes and granular detritus, thus interfering with lymph circulation and impairing brain nutrition. There are also found degenerative changes in the vessel walls and an increase of neuroglia, the podasteroid cells—adjuncts of the lymph-

vascular system—becoming swollen and granular in their effort to remove the waste material.

The nerve cells undergo a progressive degeneration, the Nissl granules break up into a mass of detritus and finally disappear. The affected areas also show degeneration of nerve fibers.

Associated with the breaking down of the nerve elements is an increase in the neuroglia, particularly noticeable in the increase of the sub-pial felting.

Numerous cells known as plasma cells are quite regularly found. Their origin is not satisfactorily explained. Whether they are transformed leukocytes or derived from the connective tissue is a mooted question. Stäbchenzellen, elongated, nucleated cells are also quite characteristic.

Although the cortex is most prominently affected, other portions of the brain, together with the spinal cord, are usually involved, while the general disturbance of nutrition is shown in diseased and degenerated conditions of various other organs, particularly the kidneys.

While the pathology of paresis discloses both inflammatory and degenerative lesions, it is still a mooted point which process—inflammation or degeneration—should be considered as primary.

Diagnosis.—One of the recent aids to the diagnosis of paresis is by the method of examination of the spinal fluid. A well-marked lymphocytosis will serve to differentiate this disease from the so-called vesanias or functional insanities but not of course from other conditions in which the meninges are seriously involved.

The principal diseases for which paresis may be mistaken, especially in the early stages, are tabes, acquired neurasthenia, alcoholism, brain tumor, cerebral syphilis, disseminated sclerosis, the functional psychoses, epilepsy and arterio-sclerotic dementia.

The principles of its differentiation from the various psychoses have been already indicated. The presence of the

underlying dementia in a person of middle age should make us at once suspicious and if to this condition the physical signs can be added a diagnosis can with certainty be made.

From *tabes dorsalis* the differentiation is not so easy, and in fact there remain a few cases where it is impossible, and we must wait for the development of further symptoms. This is due to the fact that in their early stages the physical signs may be identical in the two diseases. When, however, we observe a case in which the tabetic signs are somewhat atypical with, for instance, preservation of knee-jerks or marked ataxia of the arms, we may be suspicious of paresis and if with this condition we find associated evidences of mental disturbance a tentative diagnosis is in order.

In differentiating paresis from *acquired neurasthenia* the general mental attitude of the patient is of great significance. Whereas the neurasthenic is given to exaggerating his ills, to constantly complaining of his aches and pains, and keeps close observation of every change of symptoms, the paretic is usually indifferent or may on the contrary consult a physician under protest and in the firm belief of the uselessness of so doing as he feels so well. This is not invariable, as I have seen paretics well advanced in the disease who were much concerned over their condition. The contrary state of mind, as illustrated by one of my patients, is more common. On her admission I discovered a well-marked hemiplegia which she actually knew nothing of until I called her attention to it. In addition to this, there is in neurasthenia no dementia, no disturbance of speech or writing, no history of seizures, the tendon reflexes are equal and not abolished, the pupils equal, respond to light and accommodation and are more apt to be dilated, while in paresis they are frequently unequal and often very much contracted.

From *alcoholism* the diagnosis is often not so easy. The deterioration of the chronic alcoholic has much in common with the dementia of paresis. Here again we must turn to the physical signs and note carefully the historic facts. Follow-

ing a long debauch, however, symptoms may arise, which, in the absence of a history, would warrant a diagnosis of paresis—the so-called *alcoholic pseudo-paresis*. These symptoms disappear, though, in a remarkable manner when the alcohol is withdrawn.

In *toxic conditions* generally sluggish reaction of the pupil to light is not uncommon, while Argyll-Robertson pupil may probably occur for only a temporary period.

Symptoms occasionally develop in the course of *brain tumor* which closely resemble paresis. The diagnosis must be made on the preëminently focal character of the physical signs in the former disease.

From *disseminated sclerosis* the differentiation is sometimes difficult. The combination of intention tremor, nystagmus, scanning speech and spasticity will, however, usually leave little room for doubt, although some of these cases do ultimately develop typical signs of paresis.

From *cerebral* or *cerebrospinal syphilis* the diagnosis is again quite difficult. If the lesion is a gummatous meningitis the signs are rather of multiple lesions than a diffuse process. If, on the other hand, the disease affects principally the vessels, with resulting endarteritis obliterans, thrombosis and softening, the symptoms are focal and convulsions developing afterward constitute a true post-apoplectic epilepsy. Disturbances of speech either are not present, or, if they are, do not partake of the nature of a paretic disorder but are true aphasia, due to focal lesions. Palsies, if present, are permanent and nocturnal headaches common. The age of onset should be considered. Under thirty syphilis is more commonly found to be the cause of cerebral manifestations than paresis. It must not be forgotten that sluggish reaction to light and even Argyll-Robertson pupil may be found in cerebral syphilis.

From the so-called *functional psychoses* a differential diagnosis may be difficult in the early stages, especially if there are marked emotional disorders or paranoid delusions. The presence of the physical signs of paresis associated with symptoms

of dementia and the cytological examination of the cerebro-spinal fluid will usually clear up the difficulty.

In the early stages in those cases that have been ushered in by a parietic seizure *epilepsy* may be suspected. The absence of the history of epilepsy should suggest paresis.

The diffusion of the destructive lesions in *arterio-sclerotic dementia* is not infrequently responsible for a picture closely resembling paresis. This condition occurs much later in life, usually after the sixtieth year; there are evidences of advanced vascular disease, and the characteristic senile disorder of memory is present.

Course and Prognosis.—The disease may be said to be absolutely fatal, although an occasional alleged cure is reported. Remission quite frequently occurs, so that the patient may be well enough to leave the hospital and remain away for weeks or even months. The fact that remissions occur should never be forgotten in giving a prognosis to the relatives. The acute forms of the disease are rapidly fatal, the majority die in from eighteen months to three years, while in a certain few cases the disease process is very slow and may occupy many years.

Death usually occurs from some intercurrent affection, pneumonia, cystitis, terminal infection, or from the disease itself, which leads to an extreme degree of emaciation and exhaustion.

Treatment.—This disease is from the first preëminently a disease for institution care. The patient is absolutely unable to care for himself and in the great majority of instances the friends are equally unable to care for him. As soon as the diagnosis is made steps should be taken looking towards the appointment of a committee of his person and property or otherwise guarding his business interests, which upon investigation will show almost without fail evidences of poor management, the result of early manifestation of the dementia.

Medicinally there is really little to be done except to treat conditions as they arise in accordance with general principles. The disease is inevitably fatal in spite of anything that can be

done. Anti-syphilitic treatment may be tried, but as in tabes, little is to be expected from it, while a too heroic exhibition of mercury and the iodides may actually aggravate the symptoms and hasten the degradation.

Tube feeding may have to be early resorted to because of the development of dysphagia and the consequent danger of choking. The most scrupulous care should be taken to prevent the development of bed-sores, as they are practically impossible to heal and do much towards hastening the fatal termination.

CHAPTER XI.

DEMENTIA PRECOX.

General Characteristics.—Dementia precox is a psychosis essentially of the period of puberty and adolescence, characterized by a dementia tending to progress, though frequently interrupted by remissions. Upon the foundation of dementia are erected various psychotic symptoms, many of which show a marked tendency to episodic manifestations.

Etiology.—Dementia precox is essentially a disease, as stated, of the period of puberty and adolescence. Heredity plays a marked role in its etiology and the disease seems often to occur repeatedly in the same families. The future patient might be expected to be rather dull in his early youth and show difficulty in getting on with his studies. While this is not infrequently the case, still cases often occur in young persons, not only of apparently usual mental power, but of brilliant, perhaps precociously brilliant, faculties. This has thrown some doubt on the hereditary basis of the disease, especially as sometimes no serious taint can be found in the antecedents. In this particular form of mental alienation, I think it is, however, especially important to search for other than distinctly mental disease in the ancestors of these patients.

Every individual born into the world has, if it could be determined, a definite potentiality for development. The force of the impetus which starts it on its path is sufficient to carry it a certain definite distance. The predetermined goal, in each case, will be reached if no accident intervenes to prevent. In the subject of this disease the original impetus has been weak, only sufficient to carry them a short way and when its force is spent development stops and the retrograde process is hastened, or perhaps immediately initiated by some special phys-

ical or mental stress occurring at the critical point of puberty and adolescent evolution. As the French have it, these patients are "stranded on the rock of puberty."

If this is a true conception of the nature of the hereditary factor in these cases it is readily seen that it becomes important to search especially for evidences of debilitating influences in early life—masturbation, excessive study—or conditions affecting the health and strength of parents at the time of impregnation or during pregnancy—alcoholism, tuberculosis, extreme age, neurasthenia.

Aside from this class of causes, direct heredity is frequently in evidence, and we frequently find families with several cases of dementia precox in them, just as we find similar conditions in manic-depressive insanity.

Of exciting causes it would seem that we frequently find severe shocks, both physical and mental, as, for example, severe hemorrhages, infections,—often puerperal,—fright, and that train of emotional disturbances following seduction and desertion.

Recently a great deal has been said about a possible toxic factor as being responsible for the disease and this toxic factor has been supposed to have its origin in some of the glands after the analogy of the toxin in thyroidism—probably some internal secretion of the testicle or ovary, as the disease is so closely associated with the changes incident to puberty. Then, again, the changes of metabolism in this disease are quite pronounced and are thought to find their explanation in a toxemia.

General Symptomatology. *Mental:* As in dealing with the mental symptoms of general paresis and the senium, so here we may consider that we have a disease which is typically a dementia from beginning to end, and that upon this groundwork of dementia various psychotic symptoms may be engrafted. True, in certain cases the early symptoms do not indicate the dementia at all well, but then this conception of the disease, as in the other two cases mentioned, I think, aids somewhat in its comprehension. All of the various mental

symptoms must be considered as having this demented foundation and as being modified in their expression because of it.

The general symptoms of the disease that are common to all varieties are, as might be expected, the symptoms of mental deterioration, of decreased mental efficiency.

One of the chief and most important of these symptoms is the *failure of voluntary attention* and the *lack of interest* which these patients show both in themselves and their surroundings. They care little if at all about what goes on about them, and although confined in an institution, express themselves as satisfied with their condition and have no desire to leave. They sit idly about, giving no heed to what goes on about them, are unable to apply themselves to any sort of work or even reading, and when questioned may even pay so little attention as not to understand what is said to them, so that the question has to be repeated.

From this lack of attention things in the environment are often not perceived at all, but when they are perceived they are understood quite fully, and we usually find these patients are *well oriented* in all respects, temporal, spacial and personal, and show no *evidences of clouding of consciousness*.

The *memory* is usually defective, especially for recent events, reminding us of the memory defect of senescence. This defect, to a certain extent, is undoubtedly apparent only and dependent upon lack of perceptions because of the inability to fix the attention. An event which is not perceived will, of course, not be remembered, and similarly an event which is only perceived in a desultory manner and not fully comprehended will not be recalled at its true value. It becomes quite difficult, therefore, to differentiate the elements of this defect and tell how much is due to a disorder of memory per se. Undoubtedly a certain proportion of it is, though, and this defect is probably, largely at least, a defect of impressibility.

Knowledge acquired before the disease began, however, especially, therefore, as these patients are already quite young, knowledge acquired in school, is often remembered with quite

remarkable accuracy. Whole tables of matter, learned by rote, can be repeated, and often this ability constitutes a striking feature of the case when the dementia has become profound, and this symptom is perhaps about the only one left to indicate that the patient was ever possessed of normal mental faculties.

Perhaps as characteristic of these cases as the disorder of attention is the *emotional deterioration* which they exhibit. It is this symptom which is largely responsible for their indifference and lack of interest already mentioned. The expressions of joy or sorrow, if they occur at all, are shallow and of short duration. A death, a birth, a marriage, the visit of a long absent relative, are all apprehended with the same lack of emotional impression. No matter how much pleasure or pain the event might be supposed to give, or would give in a normal person, the patient receives it with indifference, without surprise, without an expression of interest often, in the most matter of fact sort of way, as if such things were occurring hourly.

We find a similar condition of affairs in the intellectual domain. The ideas, the *content of thought*, show a *shallowness* indicating an intellectual enfeeblement. Aside from the fact that the fantastic, unusual, bizarre character of the delusions indicate the demented groundwork on which they are founded, the patients make little or no effort to support their false beliefs, show absolutely no insight into their condition, and make the most manifestly absurd statements often in the midst of a fairly coherent conversation without at all appreciating the incongruity. Thus, one patient was able to answer questions bearing on history quite well, but when asked for some explanation as to his belief that the electric lights were burning holes in him replied by saying, "They are pretty good people anyway." The same patient had the delusion that he had no eyes or hands. Usually when questioned about such evident absurdities no explanation is vouchsafed and the patient retires behind the reply, "I don't know." The *dilapi-*

dation of thought becomes more and more manifest as dementia progresses, leading finally in its expression to almost complete incoherence, as shown in the following example:

"Oh, yes, indeed, that the weather and condition of such become rainy and people dying, and the worms eat the bodies up and take them from their coffins, they would not allow you to disclose the bodies, because the overflow of saliva causes the disease by which people cannot exist. Well, I am the only King over in Ireland. I do not know where he has gone. They wanted to put me in a wash-tub and everything else. They do not know what I am, do you see? They come into a saloon, but they will not give you anything to drink. I was the bartender there. I am a stranger. People kill them, but they come to life again. They take the position of strangers when they leave their happy homes, but I do not understand how they could kill a woman outright. What right have you got to take a stranger when they are in their rightful homes? This is the post of duty where men of enlistment return to their happy homes. This is the post of duty to enter not. They must be prisoners. They do not get out of sight. Dr. Hogan is a doctor for the purpose of curing people; also Dr. Burns; where they are going I know not. Well, I tell you, doctor, I suffered terribly this winter, also on post of duty. I do not know anything at all about it, but there is an illustration there. I cannot blame the band while at school about their music. That thermometer there is to tell whether you live or die, and it becomes such a dangerous position that the enemies approaching at this post of duty, I cannot do it with the light. That man escaped. He is living at his home in Binghamton, N. Y. Where I know not. I know that his name is Irish. They will not take him to his rightful home in the condition of such by which he has no means of support by attending bar. I was kidnapped upon the ocean, and taking en route to this place I know not. Well, as I was going to tell you, I am the enemy himself. These people here cannot perform an operation. They do not know what they are. Well, do you know

me! I am the King of Ireland, and also of all countries in existence. I was the fellow that killed the Queen. I do not know who she was. I got the picture of him. His last name was Duffy. I cannot get in communication with him."

In this example the incoherence reaches a very high degree, the conversation becomes a mere "*word salad*," in which it is only possible, here and there, to pick out an association, and that only of superficial character.

Physical: These patients usually emaciate during the early stages of the disease, anorexia and insomnia are common, circulatory disturbances, rapid cardiac action, and cyanosis of the extremities are often seen, as is also dermatographia, the result of vaso-motor paralysis. The deep reflexes are exaggerated and the pupils quite commonly widely dilated. Epileptiform, and especially hysteriform, attacks are quite frequently observed in the early stages.

In describing the varieties of dementia precox they will be considered under five heads: (1) The *simple dementia*, or *heboidophrenia* of Kahlbaum; (2) *Hebephrenia*; (3) *Catatonia*; (4) *Paranoid Forms*; (5) *Mixed Forms*.

I. SIMPLE DEMENTIA (HEBOIDOPHRENIA).

In accordance with the conception of dementia precox outlined above, which regards it as primarily a dementia upon which various psychotic symptoms may be engrafted, this variety would constitute the typical, fundamental form of the disease, showing the development of the dementia per se, with few if any of the extraneous symptoms found in abundance in some of the other forms.

The origin of this variety is insidious, and it may be quite impossible to fix its date, largely because at first the beginning symptoms were not appreciated at their true value. The young boy, or girl, as the case may be, quite commonly was previous to the onset of symptoms, getting on nicely in school, perhaps unusually well, was quite a favorite with the other pupils, took an active interest in school life, and was going on

with the young people of the neighborhood, being in every way considered a bright and normal child.

At first the patient begins to show a lack of interest in things, ceases going out and associates less and less with other children. There is a general listless, apparently lazy and tired-out attitude towards life assumed, lessons are neglected and not learned, and in school the patient shows a failing ability to assimilate new facts—to acquire knowledge.

This state of affairs is associated with insomnia and often headache, sometimes hysteriform attacks, and not infrequently is mistaken for neurasthenia, or, if the patient is quite inactive, this inactivity is taken to be an expression of the depression of melancholia.

Transitory delusions may occur, which are fully expressed, and fleeting hallucinations may at times occupy the field. These manifestations are usually disagreeable, voices are heard saying disagreeable or insulting things, visions of the devil occur, and the like.

Not infrequently these patients show themselves to be quite irritable, and partly as a result, there may occur transitory excitements. If, in addition, peculiarities of conduct and strange habits develop, the desire to be alone, some mannerism, or slight evidences of muscular tension and the simpler manifestations of negativism, the close relation between these and the more frequent and more fully developed varieties is shown.

II. HEBEPHRENIA.

This form of dementia precox is usually of more abrupt onset than the last, although here we may also find that the prodromal period extends over several months, during which time the patient suffers from insomnia, headache, anorexia, and perhaps some loss of flesh.

The symptoms of the onset of the attack are quite generally confusion and symptoms of depression which have an outward semblance to the symptoms of melancholia. The characteristic retardation of manic-depressive insanity is, however,

absent, and hallucinations and delusions occupy a much more prominent place in the picture. These hallucinations are numerous and involve more especially the auditory and visual fields. Both hallucinations and delusions are disagreeable. Voices are heard calling vile names and accusing the patient of immoral practices; delusions are self-accusatory and in harmony with the depression, the patient thinks he is lost for having masturbated and the like. In this condition violent attempts at suicide are not infrequent and only go to add force to the diagnosis of melancholia so often made at this stage of the disease.

After the active symptoms of the first stages are passed the underlying and fundamental defect becomes more apparent. The hallucinations are fleeting, the delusions not firmly fixed but changeable and fantastic or silly in content, though often with a paranoid tinge; thus one patient believes the sheets stick to his feet, another that this is the "wandering planet." These delusions are not supported by reason or logic, and seem not to have been at all assimilated to the mentality of the patient. They are false ideas, disconnected from the general content of thought and existing much as do foreign bodies in various anatomical locations.

The emotional deterioration is prominently in evidence. One patient says enemies are following him, and that he has been killed a number of times; another that the other patients are trying to injure him. These facts are told with no show of emotion, in a decidedly matter of fact way.

In the cases that are not profoundly demented a certain *looseness of the train of thought* is noticeable. One patient tells me that he has been ordained by the Lord to preach—that we are all put here to do the best we can—that the bread in the hospital is impure—that he enlisted on a certain date in a certain regiment—that when he first came to the hospital he was not well in mind or body, etc. This superficiality resembles flight of ideas, but there is none of the pressure of activity of manic-depressive insanity, and while the changes in

direction of the train of thought are abrupt, they are not sudden, and the degree of incoherence is much greater. The speech is deliberate and there does not appear to be any distractibility. The condition is due rather to *loose connection* between the elements in the train of thought and to *poverty of ideas*. In some of the more excited phases of dementia precox we do find a close resemblance to flight of ideas and these are often difficult to differentiate from manic-depressive insanity.

These cases, like the cases of heboidophrenia, often exhibit peculiar habits and mannerisms—a tendency to repeat certain phrases, suggestibility, unusual attitudes, or a certain muscular tension, shown by angularity, clumsiness, and restraint in their movements. Among these symptoms is often noted a silly laugh which is frequently developed while the patient is talking to himself, but which may occur at any time with absolutely no apparent cause. If the patient is asked for an explanation of why he laughed he will reply in a characteristic manner, “I don’t know,” or else give some shallow, wholly inadequate, or manifestly false reason. These various symptoms, with the exception perhaps of the silly laugh, all go to show the fundamental alliance between this form of dementia precox and the catatonic variety next to be described.

In conduct these patients usually exhibit a condition of listlessness, apathy and disinterestedness with little tendency to activity or to emotional expression. Alternating conditions of depression and excitement may and often do occur and occasionally the disease is ushered in by an excitement which may lead to a diagnosis of mania, as the opposite onset we have seen may lead to a diagnosis of melancholia.

The alternating conditions may be very mild as in the case of the young soldier mentioned above, who thought he was ordained to preach and that the bread was impure, who will be quiet for several months and then exhibit the opposite condition for a few days by following the doctors and nurses about the ward telling them his troubles. On the contrary, the alternations may be between conditions much more ex-

treme as in the case of the patient who alternates between a state of stupor and a state of excitement, in which he eats paper, strings, sticks, and bedecks himself with all sorts of trash he collects for that purpose, at times becoming violently angry and cursing every one. This more marked alternation is, however, somewhat more characteristic of catatonia.

In these excited conditions in cases in which dementia is well marked the form of thought becomes greatly deranged, and there is a high grade of incoherence amounting to *confusion* of thought and the speech shows absolute incoherence, a mere jumble of words expressing only fragments of ideas. A veritable word-salad (*Salade de mots* of Forel).

The following is a stenogram from such a case:

"How old are you?" "Why, I am centuries old, sir."
"How long have you been here?" "I have been now on this property on and off for a long time. I cannot say the exact time, because we are absorbed by the air at night, and they bring back people. They kill up everything; they can make you lie; they can talk through your throat." "Who is this?" "Why the air?" "What is the name of this place?" "This place is called a star." "Who is the doctor in charge of your ward?" "A body just like yours, sir. They can make you black and white. I say good morning, but he just comes through there. At first it was a colony. They said it was heaven. These buildings were not solid at the time, and I am positive this is the same place. They have others just like it. People die and all the microbes talk over there, and pres-ti-gi-tis you know is sending you from here to another world."
"Do you know what year this is?" "Why centuries ago."
"Do you know who discovered America?" "Yes, sir; Columbus." "What year?" "1492. They have had several discoveries since then, sir." "When was the Civil War?" "That was in 1864-1860-1864." "Who was the President of the United States at that time?" "Well, let me see; they make you over again, sir." "When did you enter the army?" "I entered the army, why it was centuries and centuries ago;

not I but a body just like my remembrance, around 1903." "Were you ever in Cuba?" "Yes, sir; I was there three times. That was centuries ago; not I but my remembrance, because I have been killed; yes, I have been killed, I am positive of that. Over there originally—originally means first—they re-make us. There are other stars like this. I was sent by the government to the United States to Washington to some star, and they had a pretty nice country there. Now you have a body like a young man who says he is of the prestigitis." "Who was this prestigitis?" "Why you are yourself. You can be a prestigitis. They make you say bad things; they can read you; they bring back negroes from the dead."

III. CATATONIA.

Like the other forms of dementia precox which have been described this form is usually of sub-acute or chronic onset, being preceded by symptoms of insomnia, confusion, headache, loss of appetite, emaciation and the like. The disease, on the contrary, is sometimes of sudden onset, in which case it is apt to be the result of a suddenly depleting cause like the loss of blood or some severe emotional shock or fright. In these cases the patient may become at once profoundly stuporous.

The initial stages are usually marked by a mild grade of depression, as in other forms, giving the appearance of melancholia. Hysterical attacks and in some cases epileptiform convulsions may occur during this period.

Following the more or less vague symptoms of the prodromal period occur the typical symptoms of the disease which group themselves into two stages which irregularly alternate, viz., *catatonic stupor* and *catatonic excitement*.

In catatonic stupor the principal symptoms are *stupor*, *negativism* and *muscular tension*. In the extreme cases the patient lies perfectly still, without making any movement whatever and not reacting at all to stimuli. Questions are paid no attention to whatever, absolute *mutism* being the rule, while

sensory stimuli of very considerable strength may be applied without eliciting any response.

The mutism is one of the manifestations of *negativism* which usually shows itself in various ways. The patient not only refuses to eat, but pays no attention to the calls of nature, permitting the bladder and rectum to become overloaded with urine and fæcal matter, often to a serious extent; he likewise allows the saliva to collect in his mouth for hours at a time until putrefactive changes have occurred, and then only perhaps as a result of insistence by the nurse belches forth this mass of stinking fluid. Any effort to get the patient to do anything is immediately met by a response diametrically opposed to the desired act. If asked to show the tongue the lips are tightly closed; if asked to open the eyes they are closed, if already open, or, if closed, the lids are pressed more tightly together by the orbicularis.

Attempts to move the body are met by marked resistance and elicit the condition of *muscular tension*. The limbs are quite rigid, often stretched out stiffly, the fist perhaps tightly clenched, or, again, the extremities of the body as a whole, perhaps, may rigidly occupy some peculiar position. This muscular tension is often shown in *grimaces*, certain facial muscles continuing in contraction and giving strange and peculiar expressions to the countenance. Thus we find that the patient maintains a constant expression of scowling, or keeps the eyes tightly closed, the cheeks puffed out, or perhaps the lips closed and protruded, producing the condition called by the Germans "Snautzkrampf."

Quite the reverse of this picture of negativism and muscular tension is seen in other cases. In the place of muscular tension we find a condition of remarkable flexibility, so that the limbs may be molded into any position desired, and though quite unusual, they are maintained there indefinitely—*catalepsy*—if raised, until gravity and fatigue cause them to fall. This condition is known as *flexibilitas cerea* (waxy flexibility).

With this condition is also found the opposite state of nega-

tivism, namely, *suggestibility* or *command automatism*. Patients in this condition do mechanically just what they are told. This condition of heightened suggestibility may be so marked as to produce *echolalia*—a repetition of words and phrases spoken to them, and *echopraxia*—a repetition of movements in their presence. These symptoms are often noted during the examination, when it is observed that the questions of the examiner are repeated by the patient—in whole or in part—and that also many of his movements may also be repeated, such, for example, as looking at his watch, putting the hand to the face, and the like.

The condition of catatonic stupor alternates with *catatonic excitement*. Here we find symptoms manifesting themselves by activity as opposed to the general condition of passivity or quiescence in the stuporous patients.

The marked cases of catatonic excitement are constantly talking, shouting, throwing themselves about on the bed, and generally manifesting a condition of increased psychomotor activity, reminding one very much at first of the manic stage of manic-depressive insanity. The actions are, however, much more absurd, not directed consistently to any end, quite incoherent and often interrupted by attitudinizing, hysteriform attacks and stereotyped movements—the patients repeating over and over again certain motions, such as swaying the body backwards and forwards, nodding the head, swinging the arms or certain other motions characteristic of the patient and which have no apparent significance. These motions are often accompanied by some sound, such as a grunt or blowing sound, or by the continuous repetition of some phrase.

Verbigeration, often associated with senseless rhyming, is quite common. The following is an example:

“What is your name?” “How old are you?” “About thirty.” “How long have you been here?” “A couple of years.” “What do you do most of the time?” “Fold shirts in the laundry and mend the clothes.” “Do you talk to yourself?” “I do not talk to myself; talk to other people, also

talk to all the people I run across." "What do you talk about?" "Talk about the weather, etc." "What is that you say to yourself?" "Locks and keys, keys and locks, locks, keys, keys, locks, locks, locks, keys; just a sort of doggerel [perseveration]. You know some of the attendants might get hold of me and punch me. Locks, keys, keys, locks, locks, keys, keys, locks. You know if they was to run across me making too much noise they might hurt me." "What do you say locks and keys for?" "Just to enjoy myself. You know there are times when there is nothing doing, and I have to do it to pass away the time, and you might just as well say something as nothing." "What did you say the other night to the students?" "Told them about locks and keys." "What else?" "Myriads of us keep growing in numbers, also in largenesses; locks and keys, keys, locks, locks, keys, keys, locks, locks, keys, keys, locks. Myriads of us quick-foot full through, ev-er no mat-ter. Locks, keys, keys, locks, locks, keys, keys. Myriads of us ev-er full us as keep lives giant's growths, ev-er lives giant's keeper, ev-er no mat-ter. Locks, keys, keys, locks, locks, keys, keys, locks. Lives giant's wealth, health and pleasures, ev-er no mat-ter. Lives sweet foreigners, ev-er no mat-ter." "Can't you recite some more poetry?" "I cannot give any more; locks, keys, keys, locks, locks, keys, locks. Me don't know any more; locks, keys, keys, locks, locks, keys. I will get in trouble. I have been raking away at it outside and in and inside out again. I have tried to write poetry, but could not write any more than six fools."

The noisy incoherent talk of these cases might readily be thought to indicate flight of ideas but the incoherence is much greater than that found with an equal grade of agitation in manic-depressive insanity, and there is no trace of a guiding thought in the form of a goal idea. The patient, too, does not show distractibility to the same extent, being, on the contrary, quite inaccessible, paying no attention whatever to what is being said or done by others, not even making any pretense to answer questions, though often repeated.

Quite characteristic of this condition, too, are the *impulsive acts* of these patients. They will suddenly and with absolutely no warning whatever commit some act of violence, such as assaulting another patient or breaking out a window, and quite as suddenly lapse into their previous state. It is quite impossible to get any adequate information as to the cause for these acts. The patient is inaccessible to a degree and either gives some senseless reply to the questions asked, a puerile reason, perhaps, or retires behind an "I don't know" or complete silence. These attacks come out of clear sky, cannot be foreseen, and make these patients at times very dangerous.

In the milder cases of catatonic excitement, in which the motor excitement is not so pronounced, the patients are quite commonly characterized by the development of certain habits of action in some definite particular. These peculiarities are known as *mannerisms*. One patient must slide the right foot backward and forward before beginning to walk, another holds the fork in a peculiar way, another walks close to the wall, not coming out into the center of the ward, another carefully avoids stepping on cracks in the sidewalk, and so on indefinitely.

Physical Symptoms.—The physical symptoms of catatonia are much more prominent than in any other form of dementia precox.

Slight differences in the size of the pupils is common. Pupillary unrest (hippus) is sometimes observed; quite frequently a marked degree of mydriasis is present, while the phenomenon of Pilz is sometimes found. The tendon reflexes are usually exaggerated. The cutaneous sensibility is lowered. Vasomotor disturbances are often seen, giving rise to cold, cyanosed extremities in the stuporous cases. With this condition may be associated dermatographia. The secretions are disturbed, the sweat and saliva may be increased, the urine scanty or increased, and constipation may prevail. Loss of weight is common in the active stages of this disease.

IV. PARANOID FORMS.

There has been a great deal of discussion as to just what cases are properly included under this heading. It is inevitable, as long as paranoia itself is so poorly defined, that the paranoid forms of mental disease should also be difficult to classify.

The fundamental fact is that we find here, in dementia precox, cases presenting the paranoid syndrome—delusions of persecution or grandeur, somewhat systematized, with perhaps hallucinations of hearing.

The difficulty is that some writers object to the inclusion of certain forms in the category of dementia precox, others question the propriety of the inclusion of the same forms under the head of paranoia.

If dementia precox is to be considered as fundamentally a deterioration psychosis, then we must expect to find symptoms of dementia associated with the paranoid syndrome. Kraepelin, however, has included cases that develop late in life, after thirty, and maintain their intellectual integrity for years before signs of dementia appear. On the other hand, it may be argued that the clearest cases of paranoia present evidences of intellectual impairment. The delusional system which these patients build up is founded upon ideas which have no answering facts in actual experience, and to be consistently maintained the patient must be afflicted with serious defect of judgment. Now, judgment is a function of the intellect, so that a defect of judgment presupposes an impairment of the intellect. Can not this impairment be properly regarded as the earliest sign of a dementia? Is there any essential difference other than one of degree between the patient who believes his food to be poisoned and the patient who maintains that he has no hands? Is not the fantastic, absurd nature of the delusion simply a measure of the intellectual impairment? The delusion of poisoning is just as far removed from facts and has no more foundation in experience; it is, however, more probable, less

absurd, presents fewer unusual features, because the judgment is not so seriously impaired. The whole case, from the intellectual standpoint, would appear to be one of degree.

The difficulty of differentiating the conditions in their early stages is often very great if not quite impossible. Now that we no longer consider paranoia a purely intellectual disorder we know that its early stages are usually marked by emotional depression. We find this same condition of emotional depression in the prodromal period of dementia precox. If, then, we find a boy eighteen or twenty years old with a fairly well organized delusional system and markedly depressed, with little or no evidences of intellectual impairment, perhaps only a desire to seclude himself, with an apparent inability to apply his mind consistently to any end, it is practically impossible to say whether we are dealing with a case of incipient paranoia or of dementia precox.

When, however, we find a case which gives a history of a comparatively acute onset, with the usual symptoms of insomnia, depression, loss of appetite and some emaciation; and an examination reveals a loosely organized delusional system, the delusions of which are numerous, fantastic and often changeable, associated with numerous fleeting hallucinations, we may feel confident that we are dealing with a case of dementia precox. This diagnosis is especially warranted if in addition to the above symptoms evidences of muscular tension, stereotopy, verbigeration, automatism, mannerisms, suggestibility or negativism are found, these symptoms, as we have seen, being found in all the varieties of dementia precox in varying degrees and combinations, and seeming to show, as does dementia, the underlying unity of the several different forms.

The following case shows very well the mental symptoms of paranoid dementia, although the physical symptoms, except perhaps the dilated pupils, are absent. The delusions, which were more truly of the paranoid variety at first, were of rapid growth; they soon became tinged with the absurd and bizarre, with deepening defect, while the emotional reaction was prac-

tically absent. The patient has some appreciation of the absurd character of his ideas and fails to support them with any show of logic, resting in the statement that they are facts.

C. R. L. Admitted April 7, 1905. Age, 27 years. Single. Nativity, U. S. Family history is unobtainable. The patient claims his physical health was excellent until an injury he received in the abdomen eight years ago by a falling plank. Since then he has suffered much from headaches. According to his statement in the summer of 1903 he was accused wrongfully of ruining a girl and was tried in court for this. He claims he was compelled to forfeit one thousand acres of land. This property was sold and the proceeds were turned over to the mother and child. Patient asserts that the girl's mother was the cause of all the trouble, as she was jealous of him. He says since this affair he has worried greatly. The patient enlisted in the Marine Corps after this, but did not like the service because his comrades made things very unpleasant for him. They were jealous of the position he held as hostler to a general stationed in this city. These men, he believes, threw stones at him in the dark, and on one or two occasions they put dead men's bones and dust in his bed at night. On March 4th, one month before his admission to this hospital, he was kicked in the abdomen by a horse in the same region he received the wound years ago. The blow from the animal prostrated him, and he was sent to the Naval Hospital in this city. He became melancholy and hypochondriacal, and was admitted to this institution April 7, 1905.

On entrance he complained of fatigue, and was put to bed. The next morning he asserted he slept poorly the night before on account of a severe pain in his back, which gradually ascended to his head, and by the time it reached his forehead a peculiar animal appeared before him. This monster was white and had a body like a man, with the feet of a cow. It carried a fierce hook on the end of its tail and seemed endeavoring to strike him on the forehead with this hook in the region of his headache.

The patient has now been here two weeks. He is oriented for place and person, but as to time he is quite uncertain, memory for recent events and dates being clouded. He gives the month and its date incorrectly, and hesitates over the events which transpired several months before admission here; but for the correctness of dates and happenings of his youth and early manhood he appears confident.

He sits about the ward quietly, orderly and disinterested, but willingly tells the doctor of his wrongs. These are cited in a drawling, monotonous voice. Parts of the persecutory side to his history appear plausible, but the ridiculous side is preëminent, and "that animal with the body of a man, with the legs of a cow" appears daily now, and again a few days ago dead men's dust and bones were thrown into his room. He continues hearing these strange angry voices, which seem to come through the radiator. When questioned as to the utter impossibility of such an animal as he above mentioned being in existence, the patient laughed and exclaimed: "Indeed, doctor, it *does* appear silly but it is the *truth*." He is decidedly hypochondriacal, and knows that he has catarrh all over his body, as he can feel it in his finger-tips and he knows he caught it when he was kicked in the stomach by the horse a few weeks ago. These peculiar pains start in his kidneys and travel up to his brain and over his forehead, and sometimes he is so nervous that he feels that he would like to jump up and scream. He says the doctors are wise, but they don't understand his case. The patient does not appear alarmed over his ill health, however, and he has expressed a desire to go away.

Aside from the large cicatrix on his abdomen and a deformity from a broken nose received years ago, physical examination is negative. The pupils are usually dilated, but they respond promptly to light and accommodation. Speech, coördination and gait show no disturbances, and tremors are absent. The heart and lungs appear normal.

In some of these paranoid forms the hallucinations play a very prominent part; in others they are less significant. The

delusions are not infrequently of a grandiose nature and such patients often decorate themselves very lavishly with all sorts of ornaments and insignia, usually made by themselves. They are the cases that are known as fantastic paranoiacs.

V. MIXED STATES.

As previously mentioned the several forms described are not always clean-cut. The simple, hebephrenic and paranoid often present symptoms that are more characteristically developed in the catatonic. These mixed forms are in reality very common indeed and in fact almost constitute the rule.

Course and Progress.—The simple and paranoid forms are the slowest of evolution and most chronic in course, the paranoid forms often remaining in statu quo for two or three years. The hebephrenic and catatonic forms are more acute in onset and course, leading more rapidly to dementia in the majority of cases, although the catatonic form has rather the best prognosis.

Remissions occur especially in the catatonics. According to Kraepelin, 8 per cent. of the hebephrenics (including the group of simple dementia) and 13 per cent. of catatonics make practical recoveries, but some of these cases relapse. The paranoid cases do not get well. The tendency of all forms is to a gradually deepening dementia.

Diagnosis.—The principal difficulties in the early stages are to differentiate from the *depression* of *manic-depressive insanity* and from *neurasthenia*. Time may be necessary in order to accomplish this. Later the euphoria and incoherence may simulate the *manic* state of *manic-depressive insanity*. The presence of symptoms of defect will make the diagnosis. The excitement of catatonia also resembles *manic excitement*, but in catatonic excitement the degree of incoherence is out of all proportion to the other symptoms, while in manic excitement the proportion is usually maintained.

The epileptiform and hysteriform attacks may lead to a diagnosis of *epilepsy* or *hysteria*. The history is usually sufficient to prevent this mistake.

It must not be forgotten that catatonic symptoms may appear, though usually in a rudimentary form in paresis, senile dementia, in the infection-exhaustion psychoses, and even in involution melancholia.

Pathology.—There is very little that is distinctive in the pathology of dementia precox. In the same way that the clinical symptoms are widely diffused and rather indefinite so it is with the pathological findings. A certain amount of degenerative changes are often found in the cortical cells, while some observers hold that these cells are fewer in number than normal. The neuroglia is quite frequently found increased in amount. In the other organs the changes are inconsiderable. Beginning degenerative changes may be found in the vessels and tuberculosis is not an infrequent complication.

Treatment.—The treatment must be entirely symptomatic. A careful search should be made in each case for functional abnormalities and they should be corrected as far as possible.

These cases will, of necessity, have to spend most of their lives in a hospital. It is therefore desirable to educate them as early as possible in good habits. They should be encouraged to some form of occupation, preferably out of doors. Under the influence of hospital surroundings and farm life these cases may get on very comfortably and the dementing process be considerably retarded.

CHAPTER XII.

INVOLUTION MELANCHOLIA.

General Considerations.—Under the influence of the German school the term melancholia has been limited to the depressions of advanced life that cannot be classed with any of the other psychoses, as for instance manic-depressive insanity. The distinction, in the main, is based on the characteristic appearance of anxiety and the equally characteristic absence of retardation. More careful observation, however, has taught us that while anxiety is quite typical of the depressions of advanced life, it does occur in the young, while retardation, so necessary a part of the picture in the manic-depressive type of depression, is also found in the melancholia of later life. We are thus rather coming to a belief that perhaps the differences between the depressions at the two periods of life are after all not fundamental but, to an extent at least, dependent upon the conditions incident to and dependent upon age.

The various depressions that cannot be classed with involution melancholia or manic-depressive insanity and do not form an integral part of any other psychosis, but which are the result of underlying mental or physical states for convenience are designated as the *symptomatic depressions*.

General Characterization.—A psychosis of the involutional period of life characterized by great emotional depression, apprehension and anxiety.

Etiology.—Melancholia is essentially a disease of the period of involution—forty to fifty years in women, rarely before fifty in men. A considerable number, but by no means all, show the beginning of senile decay—gray hair and the early changes of arterio-sclerosis being most noticeable. The menopause seems to be an important etiological factor in women. Hered-

ity does not play as important a role here as in some of the other psychoses, being only present in about sixty per cent. of the cases. Marked exciting causes, such as emotional shock, or other conditions of mental stress are unusually frequent. It would seem that this class of causes operating upon a mind under the general stress of the involution period, and perhaps the additional stress of heredity, were the important factors in etiology.

Symptomatology.—The disease commonly has a prodromal period of several months duration. The symptoms of this period are indefinite and are comprised of certain head symptoms, such as pressure, pain, vertigo, together with anorexia, irritability, insomnia, mental insufficiency, a mild neurasthenic state and some emaciation.

This condition becomes progressively worse and the patients develop a morbid fear of impending danger—*apprehensive depression*. The morbid background for this depression is not infrequently *delusions of sin*. All sorts of acts in the patient's past life are reviewed and considered to be unforgivable sins. Masturbation, a petty theft, the failure to carry out the advice of a priest, in fact almost anything may be looked upon as a terrible sin, even magnified into the *unpardonable sin*, and the patient fears his soul is irretrievably lost, that he will go to hell when he dies and suffer its torments eternally.

The fear and apprehension from such causes may be comparatively slight and the patient show no outward evidences of it except in conversation. Under these circumstances he is quite often able to put his depression in the background and occupy himself with some form of work. In these cases consciousness is unclouded, orientation is unimpaired, and hallucinations, if present, take a minor place in the symptom-complex. In these cases, even when the depression is considerably marked, the patients are quite capable of seeing a joke and the lapse into a moment of light talk and the smile show-

ing forth from a background of profound depression are noteworthy and characteristic.

If the depression becomes more marked the fear and apprehension graduate into a condition of *anxiety*. The patient goes about wringing his hands, moaning and groaning, perhaps repeating over and over again some such phrase as Oh my God! Oh my God! "It is a fearful thing. Good Lord help me!" The fear of impending danger is imminent, the patient is lost and is about to be executed. Whenever the physician visits the ward he is believed to have come to carry out the sentence of execution, and the patient begs and pleads to be spared, not to be taken out and butchered, shot, and cut up into little pieces. Reassurances are in vain. The slamming of a door in an adjoining ward is the report of a gun—a patient has just been shot and they are coming for him. These are the cases of *agitated melancholia*.

Even in these cases consciousness remains unclouded, orientation is little if at all impaired, and the form of thought is maintained.

Quite a different picture is sometimes presented by patients with symptoms of retardation. The milder cases merely show slow movements, slow response to questions with a low voice and remind one of the depressive stage of manic-depressive insanity. This condition is not uncommon. More marked cases, however, present mutism, inactivity and resistance sufficient to warrant characterizing them as stuporous. This condition, however, may not be altogether due to retardation but may be the result of delusions—*delusional control*—to the effect they must not speak, that it is wicked to eat, and the like. The mental condition is one of intense apprehensive depression with delusions and often hallucinations. The retardation in these cases by no means constitutes as important a part of the clinical picture as it does in manic-depressive insanity.

A still further development of anxiety may lead to a condition of marked and continuous motor agitation with insomnia,

refusal of food and emaciation, with marked clouding of consciousness, hallucinations and disorientation.

Confusion.—These are the most exaggerated of the cases of involuntional melancholia and lead rapidly to a condition of exhaustion.

In these marked cases of apprehension and anxiety there is quite frequently a considerable amount of precordial distress and tachycardia and often a sense of oppression over the chest with a feeling of difficulty of breathing. These symptoms are apt to appear in attacks, at which times the mental depression is most pronounced. Although suicidal tendencies are frequent in this form of insanity, it is not necessarily at these times that they are most apt to be exaggerated.

Farrar distinguishes two forms of this psychosis which he quite clearly defines, viz., true melancholia or *melancholia vera* and *anxietas præsenilis*, while he describes a third in which the symptoms are not quite so well marked but are rather of a negative character—*depressio apathetica*.

In *melancholia vera* we have in the main an autopsychosis. The delusions are auto-accusatory, with ideas of sin but with clear consciousness; there is no defect of orientation. The patient believes his soul is lost, that he is to suffer eternal torment hereafter, and about these beliefs there is no doubt, but on the contrary a marked "subjective certainty." There may be some slight tendency to somatopsychic delusions, insight is defective, and slight anxiety may be present.

In *anxietas præsenilis* we have, on the contrary, in the main an allopsychosis. There is a very marked "subjective uncertainty" which gives an unreal tinge to the outer world, and out of which grows the fear of things unknown, culminating in the marked anxiety which is characteristic of this form of the psychosis. Remorse or dread of future are not elements in the depression; on the contrary, it is the great unknown and overwhelming present that seems about to destroy them. These cases occur later in life than the former, show more evidences of senile decay, such as arterio-sclerosis, and present

such symptoms as verbigeration, rhythmical movements, suggestibility; the prognosis is less favorable.

In *depressio apathetica* there is simply a let-down, a stopping on the part of one who has been leading an active life. Interest abates, the struggle is drawn away from and we have a picture of mild depression with clear consciousness and no disturbance of orientation. There is some "subjective uncertainty" delusions and sensory fabrications play little part. The symptoms are negative rather than positive; the prognosis is relatively good.

The danger from suicide is greater in this form of insanity than in any other, and every case of melancholia should be considered a potential suicide. One of the principal reasons that a tendency to suicide is so dangerous a symptom here is that the carrying of suicidal tendencies into action is not interfered with by retardation in the way in which it is in manic-depressive insanity. In manic-depressive insanity the suicidal impulse is continuously prevented from expressing itself in action by the ever-present difficulty of the release of motor impulses, while here no such difficulty maintains, and the tendency constantly strives to find expression in appropriate action.

The delusional content of consciousness varies widely in this disease. *Hypochondriacal delusions* are quite common and sometimes we find *nihilistic delusions*, *feeling of unreality*, the patient claiming that nothing exists, there are no people, no world and the like. This is the so-called *délire de negation* of the French. Then, again, we not infrequently find that the delusions take on very bizarre, absurd, fantastic forms, indicative of an underlying defect. This condition may occur early in severe cases or come later as evidence of senile decay. The same may be said of *delusions of grandeur*, of great power, and the like, except that they usually appear late in the course of the malady but are equally evidence of deterioration. There may be a strange mixture of depressive and grandiose ideas, as with the patient of Weygandt, who believed

she was going to be roasted in a silver kettle. The deterioration and defect of judgment is well shown here.

Weygandt notes the following list of delusions that are found in this form of insanity: (1) Hypochondriacal delusions; (2) delusions of sinfulness; (3) delusions of persecution; (4) delusions of poverty; (5) ideas of unworthiness; (6) delusions of explanation; (7) ideas of insignificance; (8) nihilistic ideas; (9) delusions of possession; (10) ideas of grandeur.

Course, Prognosis and Termination.—As compared with other curable psychoses this can hardly be said to be of good prognosis. About forty per cent. get well. The remaining sixty per cent. terminate in various ways; some by suicide, some by death from intercurrent disease, which in their debilitated state is poorly withstood; some by death from general marasmus or the development of tuberculosis; some lapse into chronicity; and, finally, a certain few improve sufficiently to leave the hospital and get on quite well at home, though still somewhat depressed. A certain number of this last class may get worse under home surroundings and have to be returned to the hospital.

This latter class seem to get on quite well in the hospital, but the minute they attempt to take up the cares of life, to assume the worries of the struggle for existence, they break down. Perhaps their already degenerated vessels cannot adjust themselves to the increased demands made upon them by a more active brain.

Unfavorable symptoms are the development of bizarre, absurd and grandiose delusions indicating underlying deterioration. Marked physical evidences of senility are also a poor omen. A contemporaneous improvement of both the physical and mental conditions is the most favorable sign.

Pathology.—There is very little special pathology of this disease. An increased neuroglia formation in the deeper layers of the cortex has been described and in this disease we find most often that condition of central neuritis described by Meyer. The symptoms of this condition are the sudden devel-

opment of contractions with evidences of degeneration in the motor tracts, emaciation, retraction of lips from teeth, low temperature, semi-coma and death.

Treatment.—The foremost consideration in a great number of these cases is the prevention of suicide. This will require constant surveillance both night and day and in cases where the suicidal tendency is at all developed it is rarely justifiable to attempt this treatment at home, as only in an institution is the problem of taking care of this class of patients appreciated at its true value.

Insomnia is a frequent symptom for which the usual hypnotics, paraldehyde, sulfonal, trional and chloralamid are useful. In cases with high tension an occasional exhibition of chloral may be of advantage. Artificial feeding often has to be resorted to, as refusal of food is common. This means should not be left as a last resort but begun promptly as soon as the patient shows the results of malnutrition, as this class of cases require supporting treatment much more than cases developing at an earlier age. If the apprehension and anxiety are very marked and associated with much motor agitation and restlessness, opium may be tried—preferably the *Tr. Opii deod.* This will usually relieve the mental distress, but because of the tendency to acquire the opium habit and the chronicity of these cases, this treatment is hardly justifiable except to tide over some exceptional access of anxious depression.

In such cases of extreme agitation, hydrotherapeutic measures are the best means for quieting the patient—the hot pack and more especially the continuous warm bath, the patient being placed in a tub of water at about 98° F. and left in several hours, often all day each day and in some cases continuously for days at a time.

Differential Diagnosis.—The principal disease which has to be differentiated is manic-depressive insanity. Enough has already been said on this point, except to note that the occur-

rence of previous attacks should be looked into. They would, of course, make for a diagnosis of manic-depressive insanity.

Early senile insanity is often hard to differentiate and in fact the two graduate into one another. Old cases of melancholia often get to present evidences of senile decay. Arteriosclerosis seems to bridge the space between the two sets of psychoses, the involutional and the senile, and so we find symptoms common to both.

CHAPTER XIII.

THE SENILE PSYCHOSES.

A certain degree of involution, regression, failure of both the mental and physical powers is normal to man if he lives beyond the period of his maximum vigor. Age, however, is not a matter of years. Some men are older at forty than others are at sixty, and the dictum that states that "a man is as old as his arteries" comes very near to the truth.

Arbitrarily the senium is said to begin at the sixtieth year, and those cases which begin to show evidences of senile decay before this time are said to suffer *presenile* degeneration or *senium precox*.

Causes.—The causes of the senile and presenile psychoses lie in the tissue changes incident to involution. These changes begin much earlier in some persons than in others and in them the element of heredity probably enters as a potent factor. A tendency to early arterial degeneration certainly occurs in families. This tendency may, of course, be aggravated and the changes of senile degeneration hastened by a variety of causes, both mental and physical, among which alcoholism is perhaps the most prominent.

Symptomatology.—When senile involution begins earlier than the sixtieth year we have the condition spoken of as presenile dementia, presenile insanity, or senium precox. The symptoms of this condition differ usually from those of simple senile involution or even from the more common types of senile dementia developing later, and, as it were, form a connecting link between the cases of involution melancholia and the senile psychoses. The condition has a rather long prodromal period, during which the patient complains of all sorts of sensations, such as vertigo, general malaise and various paresthesias not unlike the beginning symptoms of involution melancholia.

At the same time he becomes morose, seclusive and irritable. From this condition delusions soon develop which are hypochondriacal and persecutory in character. These delusions, however, being founded upon a demented basis, partake of and show the element of defect in their absurdity. The brain is dried up, certain viscera have been removed, bones are broken and like complaints are heard. The persecutory delusions may take the usual form of poisoning and the like, but are apt to take on a sexual type and wife or husband believes his partner to be unfaithful. These delusions remind one of the similar delusions found in chronic alcoholism, but they are much more absurd and built upon the most inconsequential happenings, often originating entirely in the patient's mind. One not infrequently sees, for instance, a wife complaining of the infidelity and sexual dissipations of a husband who is so old and feeble that he can hardly get about. These patients may be very irritable at times and become very angry as a result of what they believe to be going on, but they usually soon quiet down and go right on living quietly and peacefully under the same conditions, making no effort to correct them until the next outbreak occurs. Their mental defect is shown in these evidences of lack of judgment as well as in the absurdity of their delusions.

Consciousness is unclouded and the patients are well oriented. Emotionally there is often some depression, while in the attacks of rage the emotion of anger occupies the foreground. Hallucinations are not prominent but may occur.

The more usual symptoms of senile involution occurring after sixty are in the main a loss of memory for recent events, due to lack of impressibility to the extent even that events of only an hour ago are completely forgotten, lack of ability to recognize faces, marked egotism, so that others' wants and comforts are not considered, which may be associated with some irritability on interference. There is developed more and more as the years go on a true misoneism, so that the patient will positively not tolerate any change in the usual order of

things, everything must be done the same from day to day, the same seat is preëmpted, a particular kind of food demanded, and the like with other comforts. With this misoneism and the lack of memory for recent events goes a marked tendency to reminiscence. The events of youth and the years long past, unlike those of recent occurrence, are vividly recalled and the patient thus really lives in a world of former days, constantly recalling and reiterating things that occurred long ago. This condition becomes progressively worse, the patient leading a vegetative existence almost wholly, no mental initiative, failure of judgment and a progressive loss of comprehension of the environment, so that there is no adequate grasp of the present at all.

With this mental failure goes a corresponding change on the physical side. The signs of age are evident in the wasted muscles, the wrinkled, inelastic skin, gray hair, the raucous voice, arcus senilis, senile cutaneous affections, and signs of arterio-sclerosis in the superficial arteries. In this connection it should be remembered that the conditions of the palpable arteries may not indicate at all the condition of the cerebral vessels. The superficial vessels may show marked arterio-sclerotic changes, while the cerebral vessels are in relatively good condition, or, on the contrary, the cerebral vessels may be seriously affected in a person whose radials are comparatively soft and whose temporals are not noticeably tortuous.

This condition of senile decay may be said to be normal, although many persons live to advanced years without showing it—it is the condition of the *dotard*. It is, nevertheless, properly speaking, a true dementia.

If upon this background of dementia a psychosis is developed its symptoms are usually shown in delusions, with perhaps hallucinations. The delusions are of a persecutory character and the condition may be spoken of as paranoid. They are not, however, as fixed as in paranoia and because of the dementia there can be little effort at systematization. The emotional attitude varies with the content of the delusion but is often marked by its silly, childish characteristics.

The emotional deterioration is well shown when the patients discuss their delusions. One case tells me she cannot sleep nights, for somebody spends the entire night shooting her and fills her with bullets, yet while telling this she shows no disturbance whatever, wears a slight smile and talks of these events as if they were the most commonplace affairs of everyday life. Another old lady says she has a great deal of money but does not know how much—it is in the Court of Claims and her daughter is coming to take her home and then they will get the money. This is all told in the most matter of fact way, repeated as though it were a formula and not a vital, living fact of her life. This attitude and emotional poverty show fully as well as the absurdity of the delusions the demented foundation of the psychosis.

These patients are especially apt to be restless and suffer from insomnia, sleeping, on the contrary, much of the time during the day, even as they sit up in their chairs. Often the restlessness at night takes the form of wandering about the house and during these periods they are apt to be disoriented considerably and to show much *confusion*. This tendency to confusion is, too, often marked when the patient awakes from a sleep, for some time he fails to apprehend his environment, does not know where he is, or what time of day it is. It is as though the cerebral circulation, because perhaps of the diseased vessels, took a very long time to readjust itself to the waking state.

Aside from these attacks the patients may be quite well oriented and there may be no clouding of consciousness. On the other hand they may be disoriented, both as to time and place. This is often largely due to their memory defect, lack of attention and impressibility. Such patients will supply deficiencies in their memory by all sorts of fabrications, reminding one of the similar symptoms in paresis and certain alcoholic cases (Korsakow's psychosis). One old man, although just out of bed and so feeble he can hardly stand up, tells me he has been working, making some sort of wire affair, for a man on Harrison Street for the past seven months.

This form of senile dementia is spoken of as *simple senile deterioration*.

To those cases in which the symptoms of confusion, which we have seen already occurring in the form of senile deterioration just described, especially connected with changes in cerebral circulation, presents much more prominently, in which there is marked disorientation and clouding of consciousness, the designation of *senile confusion* is given.

In these cases the confusion is not merely a transitory symptom, occurring upon awakening, but is constant. These patients do not know where they are, will ask if dinner is ready when perhaps five minutes before they have eaten a hearty meal, forget the location of their room, undress and go to bed in the middle of the day, no longer recognizing those about them, not even their children, and are difficult to manage, headstrong, peevish, resistive and inaccessible to reason. Various delusions may be expressed, often hypochondriacal in character, but quite characteristically absurd in content.

This variety of senile dementia often follows that of simple deterioration, being in fact but a more pronounced grade of degeneration. In severe cases it may usher in the mental changes.

Certain cases, over sixty years of age, develop a true *paranoid* condition, with delusions of persecution and hallucinations of hearing. These cases may not present marked evidences of senile decay and consciousness may be unclouded, orientation complete and the train of thought well maintained. This condition must be differentiated from an alcoholic delusional psychosis, paranoia, and dementia precox which Kraepelin says may rarely develop at advanced age.

Among the physical symptoms that may develop in the course of senile deterioration are apoplexy, apoplectiform attacks and senile epilepsy. True apoplexy may, of course, occur and complicate the picture, while apoplectiform attacks resulting in transient paralyses, and reminding one of similar attacks of paresis are not uncommon. Epileptic seizures may take the form of either *petit mal* or *grand mal*, and well devel-

oped attacks which recur with considerable frequency are not uncommonly developed in the senile. Chorea, of the type of Huntington, or of the post-apoplectic variety, is not infrequently observed in large institutions for the insane.

In an analysis of two hundred cases of senile dementia Dana gives the following list of symptoms which he found and which I reproduce in the order of their relative frequency: Wandering street; hallucinations prominent; violence; vertigo; persecutory ideas, other than poisoning, conspiracy, etc.; exaltation; night prowling; apoplectiform strokes; headache; suicidal attempts; suspicion of conspiracy; suspicion of poisoning; violence at night; epileptiform attacks; delusions of marital infidelity; setting fire to things; echolalia; chorea.

In addition to the types of cases already discussed a *senile delirium* has been described. This condition is characterized by varied and fleeting delusions, multiform hallucinations, clouding of consciousness, great incoherence and marked motor restlessness, often an occupation delirium. This may usher in a case that has been up to that time following a normal course, or it may occur as an episode in any case of senile psychosis. As in the condition of acute delirious mania, so here I think it should usually be attributed to some bodily cause,—pneumonia, nephritis, cystitis. It may clear up but is frequently fatal, and in these cases it is not improbable that the delirium is a manifestation of a *terminal infection*.

Course and Prognosis.—The course of senile dementia is progressive until death. The patients finally become completely demented, so that they are wholly disoriented, confused, know no one around them, in fact may not even know their own name.

It is quite possible to have attacks of other psychoses at this time of life, particularly stages of manic-depressive insanity. The prognosis of the psychosis is not changed materially by the senium except of course that exhaustion is more apt to occur and of course terminate the case. The underlying dementia continues the same or perhaps is somewhat worse after

the attack passes off. The senile deterioration being due to actual tissue changes, remains stationary or gets progressively worse, while the psychosis engrafted upon it may or may not be recovered from.

Diagnosis.—Paranoia must be differentiated by the history. Many cases of paranoia develop senile deterioration but the history would show an early development of symptoms.

Dementia precox, if in fact it does occur so late in life, would have to be diagnosed by the disturbances of motility, the catatonic symptoms.

The cases with well-marked arterio-sclerosis and multiple areas of softening present a picture closely resembling paresis. A careful study of the reflexes, both pupillary and tendinous, a consideration of the speech defect which is more truly aphasic, and the age of the patient with evidences of arterio-sclerosis, but without evidences of syphilis, will usually serve to make the distinction.

There are certain borderland cases presenting emotional depression that are difficult to distinguish from involution melancholia. The presence of defect is the criterion to judge by, though these two conditions do undoubtedly graduate into one another and as already stated melancholiacs after a prolonged duration may develop senile deterioration.

Pathology.—Grossly the brain shows signs of atrophy and decreased weight. The dura may be adherent to the calvarium and may present internal hemorrhagic pachymeningitis. The pacchionian granulations are increased in size. The leptomeninges are thickened, especially the pia, which is turbid from lymph exudate. The sub-arachnoid space is filled with fluid, which takes the place of the atrophied convolutions—hydrocephalus ex vacuo. The convolutions are shrunken and the fissures between them widened. The blood vessels show the changes of arterio-sclerosis, there may be thrombosis, or the lumen of some of the smaller ones may be very greatly reduced, thus impairing the nutrition of the area, to which they are distributed. Miliary aneurisms may occur and hemor-

rhage from rupture of them is not infrequent. Multiple areas of softening may be present from these various sources, more especially in the cortex.

Microscopically the cells show degenerative changes, especially an increase in yellow pigment amounting to a pigmentary degeneration. There is also a disappearance of fibers, especially the tangential. These having association functions their disappearance accounts in a measure for the dementia. The neuroglia is increased and sclerosis of the cortex is commonly found.

Aside from these changes other organs are usually found affected, particularly the heart and kidneys, the former showing degenerative changes in the myocardium, the latter evidences of chronic nephritis.

Treatment.—The mild cases, especially those that maintain their orientation fairly well, can be cared for at home. Those with marked confusion, especially with a tendency to wandering, need an attendant to be with them. There is danger of their becoming lost and coming to grief, or if they wander about the house at night they are apt to meet with some accident, more often to fall down stairs and sustain fractures. Patients who are very resistive, present surgical troubles, are filthy in habits, or show a tendency to commit sexual crimes, should be cared for in an institution.

As regards the more special treatment, little is to be said. Hygienic surroundings, a simple diet, looking after the emunctories, and if insomnia is present the occasional exhibition of a hypnotic constitutes about all there is to be done. In this class of cases, more perhaps than in any other, is the use of alcohol as a hypnotic indicated. A little whiskey and hot water, or a glass of beer or ale acts very nicely. It should be given, however, strictly under medical authority and supervision, as these patients are apt to be susceptible to its influences. In the earlier stages of the disease potassium iodide is the drug par excellence for its general alterative properties and its effect on the arterial tension.

THE EPOCHAL INSANITIES IN GENERAL.

Our description of the epochal insanities, *i. e.*, the insanities of adolescence, involution and the senium has shown that in general the insanities that are characteristic of these periods of life tend to dementia. Recalling our previous remarks along these lines, that persons with deficient developmental force tend to break down at that period of life to which their developmental forces have been able to carry them, it seems that it would be fair to assume, and Bolton in a recent excellent study has in fact attempted to prove, that *dementia* is the expression of "*neuronic degeneration*," he believes in every instance "*following insufficient durability*." As a further result of his studies he describes the condition of *amentia* as occupying a mid-position between these dementias on the one hand and normal individuals on the other hand, and states the underlying condition to be "*deficient neuronic development*."

A consideration of the dementing psychoses, especially those that occur at the critical periods of life, adolescence, the climacteric and the senium—from these general view-points, namely, as being due to a failure in the developmental forces and "*deficient neuronic development*" and resulting in "*neuronic degeneration*," will make their relations to one another much more clear. We can correlate the confusion, the emotional deterioration and memory defects of dementia precox and senile dementia and can understand that the peculiar disturbances of motility in catatonia may be found in certain cases of senile dementia, or, on the other hand, be represented in the resistance (negativism) of involution melancholia. We can understand why our cases of involution melancholia do not get well and how it is that we frequently find signs of arterial degeneration and pre-senility in cases of adolescent insanity. We can also understand why in certain toxic-exhaustive cases developing in predisposed individuals we might get symptoms of this adolescent-climacteric-senile group, for example, negativism, catalepsy, stupor, etc.

In the past it has been common to describe certain other psychoses occurring at physiological epochs and give them the name of the epoch during which they occurred. Thus we find the group of puerperal insanities, especially puerperal mania, and the lactational insanities.

The causes operating at these periods to produce mental disturbances are in the main two—infection and exhaustion. A large number of these psychoses therefore naturally group themselves under the infection-exhaustion types to be described in the next chapter. It will be understood, however, that the strains incident to pregnancy, parturition, the puerperium and lactation may produce outbreaks of other psychoses, particularly dementia precox.

We see, therefore, that there is no such thing, for example, as puerperal insanity, strictly speaking. Insanity frequently occurs during the puerperium but must be classified in accordance with the symptoms it presents rather than the time at which it occurs.

CHAPTER XIV.

THE INFECTION-EXHAUSTION PSYCHOSES.

The infection and exhaustion psychoses are classified together in this chapter partly because of the closely similar picture their respective psychoses present and partly because of the fact that the two conditions are so closely and so frequently found associated clinically. It would be difficult, for example, to discriminate the two factors in a post-mortem case where there had been infection following a prolonged and difficult labor with considerable hemorrhage. Then, again, it is probable that the immediate causes are not altogether dissimilar in the two conditions, as it seems to be fairly well demonstrated that the symptoms of fatigue are due to a toxemia, the result of the development of poisonous substances in the body from the chemical breaking down of tissue.

In this chapter it will be necessary to frequently use the terms *confusion* and *delirium*. By confusion is meant a state of disorientation in all the three spheres—temporal, spatial and personal. The confusion and consequent disorientation may be of any degree. By delirium is meant a confused and clouded state of consciousness associated with and symptomatic of fever. The two terms are not clearly differentiated, as we speak of pre-febrile delirium.

In previous chapters I have emphasized the fact that the condition of permanent mental impairment—dementia—modified the symptoms of a psychosis, so, for example, if there was a delusional state, the delusions tended more to take on strange, bizarre, fantastic characters because of the lack of judgment and of the critical faculty. What has been said in this respect of the permanent mental impairment of dementia may be as well said of the more acute, transitory states of mental impair-

ment—confusion and delirium. In these conditions with disorientation and clouding of consciousness the judgment is also greatly impaired and the critical faculty practically in abeyance. As a result, we see here also the most fantastic delusions. The delusions, however, are less apt to have any fixity because of the multiplicity and changeableness of the symptoms in the psychosensory field on which they are largely dependent.

PRE-FEBRILE, FEBRILE AND POST-FEBRILE PSYCHOSES.

Speaking generally fever and infection may be said to be measures of the mental stability of an individual. While some persons will remain mentally clear with a fever of 106° , others will become delirious with only a slight rise in temperature. Some persons will go through an attack of typhoid, for instance, with little or no delirium, while in other cases delirium is an early symptom and continues throughout the course of the disease. The lack of resistance is sometimes very marked indeed. I recall a young man who developed marked symptoms as a result of a very slight infection of a finger. There was only a drop or two of pus, no ascending lymphangitis and only about a degree of temperature, yet his resistance was so poor that he was temporarily deranged. In general, these cases are of poorer prognosis than the more resistive. It is generally considered, for instance, that the early development of delirium in typhoid is a bad sign, indicating that the nervous system is seriously involved and that the case is going to be a severe one.

Infection Delirium.—Under this head is included the mental disturbances which develop early in the infectious diseases, either before the fever appears at all or else when it is still so low that the mental disturbance cannot be attributed to it and therefore must be due solely to the infectious agent—(*initial delirium*). This condition is found associated with typhoid, typhus, smallpox, malaria and hydrophobia. It usually takes the form of an acute confusion, but there may be delusions of a consistently disagreeable character, generally persecutory

The condition in hydrophobia is rather one of change of character, irritability, restlessness, usually depression, verging into a delirium with confusion, hallucinations and excitement as the disease progresses. In those cases especially in which the delirium is a very early symptom, occurring before the fever, the diagnosis is very difficult and may be quite impossible until the infectious disease is frankly established.

Febrile Delirium.—A condition of acute confusion of variable intensity, usually following in its degrees the febrile movement. The milder cases usually exhibit symptoms only as night approaches, at which time they begin to mistake objects in the room, become disoriented, mildly confused and restless. More severe cases present marked clouding of consciousness, disorientation, multiform and often terrifying hallucinations and dreamy delusions. Objects in the room are mistaken, a spot on the floor is blood, the bed is on fire, visions are seen on the walls and ceilings. In this state there is considerable noisy excitement. This condition may become more aggravated, the excitement more marked, leading to great agitation, restlessness and finally purposeless movements, the expressions become very incoherent, a low muttering delirium develops with *subsultus tendinum* and *carphologia*.

The onset and severity of the delirium is, to an extent, a measure of the mental stability of the patient. Delirium develops much more readily in the unstable and those predisposed to the development of psychotic symptoms.

Post-Febrile Psychoses.—These conditions either develop as a result of the delirium of the febrile state, continuing after the fever has subsided, or may take their origin from the first during the post-febrile period. In the latter case the disease is essentially an exhaustion psychosis.

The mental state is one of confusion, with multiform hallucinations—the patient sees strange faces peering at him from the pictures on the wall, he can see through the walls into the next house, the pictures turn about and change places—there is a marked disorientation and delusions usually of a persecutory

nature—poison is administered in the medicine. This condition may become more severe, the delirium more active, the utterances very incoherent and finally a stuporous state develops with a tendency to catalepsy.

The exhaustion in most of these cases may be profound and terminate fatally; a certain few go on to the development of a chronic delusional state. Improvement in the general physical state is accompanied by mental improvement.

EXHAUSTION PSYCHOSES.

These conditions develop after severe exhaustion from any cause—loss of blood, parturition, prolonged anxiety and worry, severe mental shock, prolonged convalescence from the acute fevers, such as typhoid, pneumonia, the exanthemata, etc.

Collapse Delirium.—This is the *delirium grave* or the *acute delirious mania* of the older authors.

The disease may present a prodromal period of restless irritability and insomnia, after which a condition of confusion develops which may be very mild, constituting only a slight degree of perplexity or more usually manifesting hallucinations, clouding of consciousness, disorientation and dreamy delusions. Psychomotor excitement is common, the patient being very active and inclined to acts of violence and destructiveness.

The degree of excitement in these cases may become very great indeed, in fact exceeding anything we see in the other psychoses. When this extreme form was the only one recognized the disease was supposed to have a uniformly fatal termination.

In these severe cases the incoherence becomes absolute, disorientation complete, clouding of consciousness profound. Temperature usually develops and may be very high—106°. Gastro-intestinal symptoms are common, there is almost complete anorexia, coated tongue, a frothy, offensive diarrhea, a high grade of indicanuria and great emaciation, a severe grade of exhaustion, with typhoid symptoms followed in a large proportion of cases by coma and death.

Stupor with catalepsy may constitute an episode or be sufficiently in evidence to give its character to the attack.

Though the severe cases almost all die, the milder cases usually make good recoveries. Of all cases, perhaps fifty per cent. are fatal.

As was indicated in the chapter on manic-depressive insanity some of these cases may be extreme forms of other psychoses, while many of them are found to present at autopsy some acute disease, such as pneumonia, nephritis, that accounts for the symptoms. It is, of course, readily seen how difficult the diagnosis of conditions dependent on careful physical examination must be in these wildly excited cases.

These cases have a short duration, ending in recovery or death in a few days or at most a few weeks.

Acute Hallucinatory Confusion.—This psychosis is less acute than the former but of the same general nature, and may be described as an acute primary insanity, characterized by clouding of consciousness, confusion, multiform and usually fleeting hallucinations in the various sensory areas, changeable delusions, the emotional attitude being variable and in general corresponding to the content of the delusions. It is generally of considerable duration, often many months. The course is somewhat irregular and not infrequently interrupted by *lucid intervals* which may be of only a few minutes duration or may last a day or two. This is important to know, so that a lucid interval will not be definitely stated to be the beginning of permanent recovery.

As in the preceding form, stuporous states may intervene and for a considerable time dominate the picture.

Diagnosis of the Infection—Exhaustion Psychoses.—The diagnosis is to be made in general from the association of acute confusion, multiform hallucinations, changeable delusions, disorientation, clouding of consciousness and variable emotional reactions, with specific infection, or coupled with the physical signs of exhaustion, great emaciation and fever. It must not be forgotten that certain other insanities, particularly dementia

precox and manic-depressive insanity, may originate under the same conditions which lead to the development of the infection—exhaustion psychoses, and further, that aside from the conditions of confusion described (*primary confusion*), states of infection and exhaustion may complicate any psychosis, producing a confusion engrafted on the original mental disorder (*secondary confusion*). Recurring attacks of confusion should cause us to consider the possibility of some other psychosis.

Special care should be exercised in excluding delirium tremens and epileptic dream states. The characteristic hallucinations of delirium tremens are not present, while the anamnesis or scars about the head and face will indicate the presence of epilepsy.

Catatonic excitement is not accompanied by the signs of such great exhaustion or by such marked emaciation.

Treatment.—The treatment must, of course, where a specific disease, such as typhoid is present, be in the main the treatment of the underlying disease. Otherwise the treatment is supporting and sedative.

For the excitement the continuous bath or wet pack with the occasional exhibition of a hypnotic.

Forced feeding should be begun as soon as the patient begins to refuse food, as these cases have no strength to spare for the experiment of waiting to see whether they will eat.

The gastric disturbance in many of these cases is so marked that if the usual feeding is given it will be promptly vomited. Such cases should be fed small amounts often.

In the extreme exhaustion of the later stages hypodermoclysis may be used with beneficial results.

CHAPTER XV.

THE TOXIC PSYCHOSES.

Toxins may be classified on the basis of whether they originate within the body—*endogenous*—or are introduced from without—*exogenous*. The former are often spoken of as *auto-toxins* and the conditions resulting from them as *auto-toxic* states or as *auto-intoxication*.

AUTO-TOXIC PSYCHOSES.

Uremia.—The auto-intoxication which develops as a result of renal disease produces mental symptoms of an acute confusion with changeable delusions, hallucinations, clouding of consciousness, restlessness. The character of the delusions may be more or less consistently grandiose, giving rise to an *expansive form*, or depressive, giving rise to the *depressive form*. In sub-acute cases a condition of suspicion, anxiety, with systematized delusions of persecution, sometimes develop.

Diagnosis.—The diagnosis is to be made from the association of an acute confusion with the uremic state. The sub-acute cases may mislead as they have the outward semblance of chronic insanity. The history will, however, show an acute onset and the physical examination will disclose evidences of renal disease.

Diabetes.—The mental disorder associated with diabetes is usually of a mild chronic type. It is invariably a depression, with melancholic ideas of sin, ruin and usually also hypochondriacal ideas, especially with reference to the excretion of sugar. There is liable to be marked somnolence with some confusion and disorientation in the semi-somnolent state. Persecutory delusions are quite frequently developed, ideas of poisoning and the like.

Diagnosis.—The persecutory type must be differentiated from the chronic psychoses. Otherwise the diagnosis is made by the association of the mental symptoms with glycosuria.

Gastro-Intestinal.—Certain cases of acute confusion develop, associated with a profuse, offensive diarrhea, a high grade of indicanuria, vomiting, low fever and perhaps mild albumenuria. Some of these cases go on to acute delirium, with high fever, typhoid state, profound exhaustion, coma and death.

THYROGENOUS PSYCHOSES.

The thyroigenous psychoses may be divided in two classes: Those due to defect of secretions—myxœdema and cretinism—and those due to hypersecretion—exophthalmic goitre.

Myxœdema.—Associated with the physical symptoms of myxœdema is a mental state of stupidity, indifference and apathy, deepening into dementia. There is gradual failure of memory, lack of power of voluntary attention, slow association of ideas and difficulty of apprehension. Sometimes a moderate degree of confusion with excitement develops.

Cretinism.—Associated with the physical signs of cretinism is a mental state, due to lack of development, which may range all the way from the profound degradation of idiocy to mild grades of imbecility.

Exophthalmic Goitre.—This disease is not infrequently associated with hallucinations of hearing, voices being heard saying disagreeable things to the patient. With these hallucinations occur anxious and agitated states. The prognosis in these cases is bad. Many of them die.

Then severe cases of *acute thyroidism* are seen occasionally, following operations upon the gland and may be due to the expression of its secretions by handling it and subsequent absorption.

TOXIC PSYCHOSES.

Alcoholism.

The role that alcohol plays in the production of psychoses, while admittedly an important one, is not at all well understood. Recent statistics, conservatively interpreted, would indicate that about twelve per cent. of the cases of insane confined in public institutions in the United States are insane because of its influence, direct or indirect. When, however, the multitudinous ways in which alcohol may enter as a factor in the production of mental disease and the far-reaching effects it produces are considered it is readily seen that no statistical study can begin to fathom the problem.

While the psychoses considered under this heading seem to be closely associated with alcohol and in the main present fairly constant and characteristic pictures, it must not be forgotten that alcohol may enter as an etiological factor in the production of symptoms ordinarily considered to be quite distinct from the alcoholic psychoses properly so-called, such as manic-depressive insanity, while it is considered by some to be a very important causative agent in paresis.

When attacks, for instance, of manic-depressive insanity are brought about by alcoholic indulgence it is probable that they are considerably modified as a result and present a somewhat atypical picture.

That the psychoses produced as the result of abuse of alcohol are dependent, in the last analysis, upon something besides the alcohol, namely, upon some peculiarity of makeup of the individual is well shown by the fact that while a history of abuse of alcohol is frequent in cases admitted to hospitals for the insane, it is very rare to find at autopsy what in general hospitals is considered so typical of alcoholism, namely, cirrhosis of the liver. This means that the *locus minoris resistentiæ* in these cases was the brain and that mental disease supervened before the liver was involved.

Drunkenness.—Alcohol, like fever, may be said to be a

measure of cerebral resistance, the unstable, predisposed individual becoming intoxicated much more readily than the normal.

The phenomena of drunkenness are, from the first, phenomena of paralysis. In the early stages it is only the higher psychic functions, which are largely inhibitive, that are affected, so we get apparent stimulation in the excitement produced with flight of ideas, pressure of activity, loss of the sense of propriety, degradation of the moral tone and loss of power of voluntary attention. The lower centers then become paralyzed and then appears muscular incoördination, manifesting itself first in the hands and facial muscles and the muscles controlling articulation, the speech becomes thick and the gait unsteady. Sensory disturbances appear, such as diplopia, tinnitus aurium, and the senses of touch and pain are blunted. If the paralyzing action of the alcohol continues coma results, which may be fatal. The mood during intoxication may be a pleasant one, and frequently is one of boisterous exaltation, constituting the *exalted type*; on the other hand, a sad, depressive, lachrymose mood may prevail constituting the *depressed type*.

Pathological Drunkenness.—Among certain predisposed individuals alcohol produces unusual and much more severe symptoms. In this condition we may find hallucinations and delusions dominating the field of consciousness, the delusions being usually of a persecutory character. In other cases the excitement may issue in a wild maniacal frenzy or the depression may be so profound as to result in attempts at suicide. In some persons the paralyzing effects of alcohol are unusually pronounced and coma appears early on the scene. Those who have latent hysterical tendencies may have hysterical attacks during intoxication, while alcohol frequently produces convulsions in epileptics. Aside from this latter action, however, the convulsive properties of alcohol alone are capable of producing convulsions in persons who have long indulged and are profoundly degenerated.

In these cases of pathological drunkenness in which the reaction to alcohol is so pronounced it is quite common to find *amnesia* for periods of profound intoxication.

Delirium Tremens.—This disorder usually occurs as the result of a prolonged drunken debauch of a chronic alcoholic, during which the patient has had insufficient food and rest. According to some authors, it may result directly from the withdrawal of alcohol. It may, however, appear as the result of a single excess or in the moderate but continuous drinker, following a traumatism or the initial symptoms of an acute illness. The disease may appear suddenly, but there is generally a prodromal period during which the patient is nervous, with coated tongue, suffering from anorexia, restlessness, tremulousness, disturbed sleep and insomnia. This condition rapidly advances with the onset of the attack, the characteristic symptoms of which are rapidly developed. They are tremor, delirium and albuminuria.

The *tremor* involves more particularly the small muscles of the hand, face and tongue, but may also affect the entire musculature. It is increased by muscular tension, such as forcibly spreading the fingers apart.

The *delirium* is an acute hallucinatory confusion.

Disorientation is often quite complete, the patient, although perhaps fastened in bed, believing himself in his office or home, surrounded by familiar faces. The predominating hallucinations are visual and characteristically take on the form of animals. The patient sees all sorts of horrible creatures, snakes, rats, mice, alligators, etc., which are uniformly in motion. Surrounded by the loathsome creatures and by horribly grimacing faces, terrified by screams and shrieks (auditory hallucinations), he presents a picture of abject terror. In addition to these symptoms, the patient may complain that insects or worms are crawling under his skin (paresthesia) and mistake spots upon the bed or walls for bugs, mice, etc. (illusions). At the height of his excitement the patient is in constant motion, picking insects from his nightdress, repelling

the approach of terrible animals; in the extreme frenzy of his fright, he may make murderous assaults on those about him, believing them to be his enemies, or perhaps attempt his own life to escape from his horrible surroundings. During all this time the patient is constantly talking, shrieking in fear at times, at others carrying on an incoherent discourse with imaginary persons, fragments of which often relate to his former occupation and friends.

Some patients do not present this picture of extreme restlessness and the pressure of activity is not communicated to such a degree to the function of speech. Such patients may present an alert appearance, be fairly calm and can often be taken in the lecture room before the class.

The *mood*, too, may be quite different; from being in a condition of constant apprehension and fear of an overwhelming and terrifying environment, they may be happy and contented. A recent patient in the hospital saw about him numerous men of Lilliputian dimensions and displayed the liveliest interest in these strange little people.

Often dreamy hallucinations and delusions relate altogether to his occupation and the patient busies himself with his usual pursuits—*occupation delirium*. Physically he is in a condition of acute exhaustion. The pulse is rapid and of low tension, the temperature normal or only slightly elevated (occasionally high, the *febrile delirium tremens of Magnan*), the body bathed in a profuse perspiration and constantly agitated by muscular shocks and tremors. Occasionally one sees cases ushered in by all the typical prodromal symptoms, sweating, atonic dyspepsia, restlessness, tremor, precordial distress, anxiety and disturbed sleep, which do not proceed to the typical condition of mental confusion with multiform hallucinations. This is the so-called *abortive type*, the *delirium sine delirio* of Dollken.

During the course of the disease almost any experience the patient may have, any impression made upon his sensorium is woven into the warp and woof of his delirious experiences—

sensory flight of ideas. Hallucinations seem to arise spontaneously or are easily produced by pressure on the eyeball or merely by getting the patient to look at a blank piece of paper. *Paraphasia* and *paralexia* are commonly present.

Albuminuria is found in a considerable proportion of cases, probably considerably over fifty per cent., during the early stages. At the height of the delirium *leucocytosis* has been found. It must not be forgotten, too, that here, as in acute toxic states generally, a sluggish reaction of the pupil to light and even complete Argyll-Robertson pupil may be found. This sign disappears, however, on recovery. This is an important fact to be borne in mind in the matter of diagnosis.

Acute cardiac dilatation may develop at the height of the disease.

Course and Duration.—The psychosis runs an acute course of about three days and terminates in recovery in the majority of cases. The delirium usually ends in a long sleep. About ten to fifteen per cent. die.

Chronic Alcoholism.—The effects of chronic alcohol poisoning are exhibited in every organ of the body, more particularly the central nervous organs, stomach, pancreas, liver, kidneys and blood vessels, and give rise to characteristic symptoms as a result, the most prominent of which are tremor, gastric catarrh, arterio-sclerosis, albuminuria and progressive mental enfeeblement.

The effects on the nervous system are shown in disturbances of sensation, motion and the intellect. The *sensory* disturbances are paresthesia (prickling, tingling, formication), hyperesthesia and hyperalgesia, occurring usually in patches, and anesthesia also of patchy distribution but sometimes affecting only one side (the *hemianesthetic form of Magnan*). The sensory disorders of the special senses involve principally the eye and ear, producing illusions and hallucinations, *muscæ volitantes*, photopsia, amblyopia and amaurosis, diminution of the acuteness of hearing with the production of subjective

noises (hissing, ringing roaring, etc.), due to middle or internal ear disease.

The *motor* disturbances are tremor, spasms and cramps, epileptiform attacks, general motor enfeeblement with paresis.

The *mental* changes are gradual and progressive, the intellect is obtunded, the judgment overthrown, the moral sense blunted, and mendacity appears in its most bizarre forms; delusions may develop, the most characteristic of which is marital infidelity and jealousy, and the patient sinks gradually into a condition of permanent mental enfeeblement.

Diagnosis.—Alcoholic dementia is to be differentiated from other dementias largely by the history. Alcoholic dementia will have a history of progressive mental enfeeblement closely associated with alcoholic indulgence.

Alcoholic Pseudo-Paresis.—On a groundwork of mental enfeeblement the alcoholic may develop a true expansive delirium which, combined with the signs of alcoholism (ataxia, speech defects, tremor, pupillary anomalies and muscular weakness), may make the distinction from paresis difficult—*alcoholic pseudo-paresis*. This similarity to paresis is noticeable even when the expansive delirium is absent in cases in which the mental reduction is marked, but becomes greatest when the symptom complex above outlined is ushered in by epileptiform attacks.

Diagnosis.—The distinction from true paresis can usually be made. Pupillary inequality is more common and the permanent results of apoplectic insults (hemiplegia, aphasia) more often found in the alcoholic form than in the true. The results of polyneuritis should be looked for and if found suggest alcoholism. The most reliable differential sign is found in the course of the two maladies. True paresis is progressive, tending toward ever-increasing degradation, while in the alcoholic form removal of the poison results very shortly in a remission of all the symptoms, even, in some cases, amounting to a recovery. The symptoms, however, reappear subsequently if drinking habits are returned to.

Alcoholic Epilepsy.—As a result of chronic alcoholic toxemia, the symptoms of which are marked throughout by their explosive character, it is not strange that actual convulsions, alcoholic epilepsy, should complicate the morbid picture. These convulsions, so far as their individual characteristics are concerned, are indistinguishable from true epilepsy. Occurring, however, in a person beyond the period of adolescence who is addicted to the immoderate use of alcohol, their origin should be suspected. The diagnosis is made clear if they cease upon the withdrawal of alcohol. As this sometimes does not occur the diagnosis can be made only by excluding the causes both of true and symptomatic epilepsy other than from alcohol.

Alcoholic Hallucinosiis.—This psychosis may come on suddenly in a chronic alcoholic, as the result of an unusual excess, or it may be of gradual evolution. It is sometimes preceded by one or more attacks of delirium tremens. It is characterized by hallucinations, auditory predominating, thus contrasting strongly with the predominance of the visual hallucinations in delirium tremens.

The delusions are of a persecutory nature, in which the sexual element is frequently prominent and show a tendency to systematization. The system, however, is of rapid growth and loosely organized.

Whether of sudden or gradual onset, the first symptoms are hallucinations, with which persecutory delusions are intimately bound up. The patient hears voices making all sorts of inimical remarks, telling him that his children are not his own, calling him an onanist, reviling or threatening him. A voice is sometimes referred to the epigastrium (epigastric voice), and in every way his persecutors annoy him by their malign comments. Visual hallucinations, if they occur, are equally unpleasant. Hallucinations of smell and taste are not infrequent.

The delusions of this state harmonize well with the hallucinations. The patient is persecuted by invisible enemies who inject noxious vapors in his room at night, poison his food, draw off his semen, and produce nocturnal pollutions.

In this state of persecutory insanity the patient is depressed, apprehensive, often fearful of impending danger, may have anxious and angry states, and often reacts by attacking his supposed persecutors. Throughout this condition the patient is well oriented and consciousness is clear.

Diagnosis.—The diagnosis from delirium tremens is made by the absence of disorientation and by the marked prevalence of auditory hallucinations in the form of threatening voices. From paranoia the distinction is made by the very rapid systematization of the delusional system, as opposed to the slow evolution of that disease.

Alcoholic Pseudo-Paranoia.—In some cases of chronic alcoholism a paranoid state is developed, in which psychosensory disturbances (hallucinations) may be of secondary importance or not present at all. The characteristic delusion in these cases is that of marital infidelity.

While some of these cases develop primarily upon a background of chronic alcoholism, others may follow directly upon an attack of hallucinosis or delirium tremens.

These cases have a long course, poor prognosis, and may terminate in considerable impairment.

Diagnosis.—This delusion of marital infidelity and jealousy may not be accompanied by any noticeable degree of impairment of judgment or mental enfeeblement, and in these cases it may be extremely difficult to make a differential diagnosis between this form of alcoholic insanity and true paranoia. Particularly is it difficult to recognize paranoia with subsequent or coincident alcoholic indulgence.

Certain other paranoid conditions, especially of the involution period, may present this picture with the characteristic delusions of jealousy.

Differentiation is made by excluding alcohol in the anamnesis.

Korsakow's Psychosis.—The mental state of this psychosis accompanies polyneuritis and is usually of alcoholic origin, but may be caused by other poisons, as those of typhus, tuberculosis, influenza, and the Korsakow syndrome is seen not infre-

quently in general paresis and in senility. The signs of polyneuritis may be very slight.

Symptoms.—The patient is amnesic both for events in the immediate past and for the whole period of time during which he has been ill. This defect of memory is associated with a composed bearing and apparent lucidity on casual questioning. A more careful examination, however, will show not only this memory defect, but probably also that the patient is disoriented as to time and place.

The characteristic symptom is associated with the amnesia and consists of a peculiar *falsification of memory*. The gaps in memory are filled by all sorts of *fabrications* which are narrated in great detail and with a perfect appearance of lucidity—*confabulation*. A patient who has been confined to his bed for days with foot- and wrist-drop tells me, when asked where he was the day before, about having gone to the races and details his conversation with different persons, describes the events, tells what horses won and the like.

Diagnosis.—The association of the peculiar falsification of memory with confabulation and usually disorientation with foot- and wrist-drop is characteristic. Paresis is to be distinguished by the absence of evidences of polyneuritis.

Dream States.—Less common and more unusual effects of alcohol are the conditions of so-called *trance*, *automatism*, *double consciousness*, *spontaneous somnambulism*, which are followed by *amnesia*. In these conditions the subject of alcoholism may do almost anything imaginable, make contracts, transfer property, commit criminal acts, take long journeys, enter into complicated business or professional transactions, and later have absolutely no knowledge of what he has done. During a protracted debauch the subject may suddenly start off on a journey and travel under an assumed name, meanwhile conducting himself in such a manner as not to lead to any comment on the part of those whom he meets. Suddenly, without warning or after a night's sleep, he "wakes up" to a realization of his true situation with absolutely no memory of

how he got where he is or what he has been doing since he started away from home. As the name indicates, this condition has been described as one of automatism, but a moment's consideration will serve to show that acts of such a complex character cannot be automatic acts. The fact that no recollection remains of what was done has been used to argue unconsciousness, but that is equally inconceivable. Hundreds of miles could not be travelled by an unconscious man without attracting attention. The mere fact that the patient has forgotten what occurred is no reason why he must necessarily have been unconscious. I have been fully able to demonstrate that consciousness actually did exist in certain cases that I have studied which were followed by amnesia, and as a result I am convinced that the same condition might be found to exist in others. Some persons are especially liable to this form of mental disturbance, and it may repeat itself on the occasion of renewed intoxication. Its psycho-pathological basis is probably a dissociation of consciousness.

The *neuropathic state*, though the most pronounced cause of alcoholism, may be an effect. *Neurasthenia* and *hysteria* may both occur as the result of alcoholism; the former caused largely by the malnutrition and exhaustion following continued over-indulgences, the latter often affecting the male sex. In these cases the alcohol probably only serves to bring to light latent hysteria.

Dipsomania—a periodical impulse to drink—is an expression of deep-seated neuropathic taint.

Course.—Chronic alcoholism, whether interrupted or not by any of the forms of mental disturbance described in this chapter, tends to an ever-increasing dementia, *alcoholic dementia*. Mental enfeeblement is a symptom from the outset and is noticeable at first in the esthetic and moral sphere. The previously proud, well-dressed man becomes slovenly in his habits and unkempt in his appearance. Incapable of the close and continuous mental application of former years it becomes impossible for him to meet the requirements of his business or pro-

professional life and lying is resorted to in finding excuses. This is followed by moral obliquities of a more serious nature in which the sexual element is apt to predominate and result in medico-legal complications. Memory is early and noticeably affected. The every-day affairs of life are forgotten, so that the subject of alcoholism neglects to keep appointments, forgets important business engagements, etc. Judgment and the reasoning faculties are similarly enfeebled, until finally the most profound degree of dementia is reached, hastened perhaps by apoplectic insults which are not uncommon.

Pathology.—The gross pathology of alcoholism has already been indicated. Cirrhotic liver, chronic nephritis, fatty heart, chronic gastritis, arterio-capillary fibrosis, cerebral arterio-sclerosis and cerebral hemorrhage.

The principal lesions found in the brain are pachymeningitis, edema, congestion, thickening and opacity of the piaarachnoid, atrophy of the convolutions, sclerosis of the vessels, degeneration of the cells and increase of neuroglia.

Treatment.—The treatment of *delirium tremens* and the other *acute* alcoholic psychoses should be supporting; liquid concentrated food predigested if necessary. The bowels should be kept free and the kidneys kept flushed by a goodly supply of fluid. Heart stimulants are often necessary, digitalis, caffeine, strychnine, to combat cardiac failure, and hypnotics to induce sleep and give rest. The latter should be carefully selected with reference to the patient's condition, depressing agents, such as chloral, giving place to safer ones as trional if there is much heart embarrassment. The after-treatment consists of abstinence from alcohol, tonics, nourishing food and regulation of the emunctories.

The medicinal treatment of *chronic alcoholism* should be tonic and supporting. Strychnine for a general nervous and cardiac stimulant, ergot if there be symptoms of "wet brain," capicum and bitter tonics for the gastric condition of anorexia; attention to the emunctories, moderate exercise, baths, massage and electricity for their general tonic effects; sedatives and

hypnotics with caution; a modified "rest treatment" if there is marked neurasthenia, and later a sufficient amount of mental and bodily exercise to keep the patient healthfully occupied.

The matter of isolation is an important one. I feel convinced that in all cases in which the habit is firmly fixed isolation is highly desirable, if not imperative, as in these cases the patient is unable to resist temptation and, as soon as opportunity presents itself, will lapse. After confinement for a few months, during which the patient is restored as far as possible to physical health, he is in condition to abstain if he wants to and is able; if he does not wish to or if he suffers from too great weakness of will, he will return to his old practices and his case is hopeless. If he does wish to stop drinking, however, he has been given the best possible opportunity, an opportunity which should be early extended in all cases and not offered when by long-continued indulgence the case is of necessity hopeless.

Opiumism.

Causes.—As in other varieties of narcomania the most important cause is the neuropathic diathesis. In this class of patients the habit is often initiated by the use of morphine to relieve the periodic pains of neuralgia, tabes, dysmenorrhea, rheumatism, etc., or the mental depression incident to worry, loss of position, grief and the like. A great many cases are unfortunately traced to the carelessness of physicians in prescribing the drug, and as if in retribution medical men furnish the largest quota of sufferers (fifteen per cent.).

Symptoms and Diagnosis.—The symptoms of a single dose are at first those of mild stimulation of the mental faculties followed by a period of quiet, half-waking, half-sleeping, interrupted by multiform pleasant hallucinations (predominantly visual) which show no tendency to delusive elaboration in the waking state. This condition is followed by malaise, headache, dry mouth, constipation and nausea.

The physical and mental disorders resulting from long continued use are well formulated by Peterson.

Physical.—(1) Anorexia and constipation (later diarrhea often). (2) Cachectic anemia. (3) Cardiac intermittance and bradycardia. (4) Muscular weakness with tremor. (5) Miosis in the early stages, mydriasis in the later, with sluggish reaction of the pupils. (6) Impotence; amenorrhea in women. (7) The knee-jerks are often absent. (8) Diminished sensibility to touch and pain and concentric limitation of the visual fields. (9) Headaches and localized shooting pains, neuralgia and paresthesias. (10) Sensation of being cold.

Psychical.—(1) Simple elementary illusions and hallucinations, *muscæ volitantes*, *tinnitus aurium*. (2) Loss of will and esthetic sense, irritability, moral perversion, as in alcoholic psychic degeneration, but with little failure of memory. (3) Diminished attention, incoherence of ideas and easily fatigued intellectual powers.

The diagnosis can often not be made without the anamnestic data. The patients frequently deny their habit—mendacity is a prominent symptom, and they are often cute enough to find means of indulgence even though carefully watched. The moral degradation is pronounced and they will go any length to obtain their drug. Symptoms which should excite suspicion are periods of torpor and languor in marked contrast to the activity of alcoholism, amounting at times to an inability to even sit up, occasional signs of stimulation, small pin-point pupils, yellowish-brown cachectic complexion, and, above all, the numerous scars of hypodermic injections. In conditions in which a diagnosis is necessary it is to be remembered that morphine can be recovered from the urine and stomach.

Psychic disturbances develop more often as the result of abstinence than of continued use. They may be characterized by predominating depressive (*melancholia*) or exalted (*mania*) affects, or a paranoid state may develop. As in other toxic psychoses there are apt to be present more or less confusion and a tendency to multiform hallucinations. Dementia is a rare sequel.

Prognosis.—The prognosis is not good and except in such cases as are not complicated by neurotic or psychopathic taint or disorders relieved by opium, recovery is hardly to be expected.

Pathology.—Opium has much less tendency to produce tissue degeneration than alcohol and many persons continue for years to take small doses with no apparent harm.

Treatment.—The treatment of morphinism has to do with the removal of the drug and the symptoms of abstinence. Isolation is more necessary than in alcoholism, as these patients make more effort to obtain their accustomed stimulant surreptitiously. It is well, in accordance with Dercum's suggestion, not to begin stopping the drug until the patient has been under treatment for a time, confidence established, and the general health raised to the best standard. The *ration de luxe* can then be rapidly withdrawn, in accordance with the method of Erlenmeyer, leaving the patient on about 0.15 to 0.20 gm. morphine per diem, below which amount serious symptoms are apt to present themselves. From this point on the withdrawal should be gradual. Symptoms of abstinence, if they appear, are referable to the heart, stomach, bowels and nervous system; they are circulatory failure, respiratory disturbance, pyrosis, vomiting, diarrhea, tremor, general debility, an hallucinatory delirium and sometimes profound collapse. Ball has called attention to pollutions and erotomania which may result from abstinence. For the cardiac weakness digitalis or sparteine hypodermically should be used, for the pyrosis, bicarbonate of soda; vomiting and diarrhea should be treated in accordance with general principles (bismuth, etc.), opium being avoided. If the mental and physical symptoms become grave morphine should be given and will usually relieve them. The evening dose should be omitted last, to combat any tendency to insomnia, and full feeding, massage and hydrotherapy are valuable adjuncts.

Meco-narceine (Duquesnel's solution) has been used by Jennings as a substitute for morphine for a few days only after entire discontinuance. It is necessary to call attention to

the danger of cocaine for this purpose. Codeine has also sunk into disuse and the recently synthesized derivatives of morphine, heroin and dionin cannot be said to be any better. Their use is founded on a wrong theory and is fraught with danger. Cases of serious addiction to codeine and heroin have been reported.

Cocainism.

Causes.—Addiction to this drug has in a great many cases come about by attempting to substitute it for morphine, and as a result pure cases of cocainism were formerly more rare than at present. Cocaine has been used so much of late in dentistry, minor surgery, and especially nose and throat work, that a knowledge of it has become more or less general. The victims are usually those who have commenced its use for its analgesic effects and are largely physicians.

Symptoms.—The symptoms resulting from the use of cocaine are those of marked stimulation. The pulse is increased, pupils are dilated. The patients are active and extremely talkative, often repeating remarks a number of times; they are constantly busy, some of them writing endless letters, and their whole appearance indicates an acute intoxication. The effects are, however, very fleeting and the dose has to be frequently renewed. Chronic addictions result in marked emaciation, cachectic anemia, insomnia, sometimes epileptiform attacks and various paresthesias, the most marked of which is a sensation of crawling under the skin ("cocaine bug"). In the psychic sphere occur incapacity for mental application, lessened moral sense, mendacity, irritability, impaired judgment and sometimes the delusion of marital infidelity. These symptoms may be followed by mental confusion with hallucinations, but more characteristically by a paranoid state. From true paranoia this is differentiated by the greater variety of delusions, those of paranoia being less variable, rather noticeable for their monotony. In the paranoid state of alcoholism, on the other hand, the hallucinations are more stereotyped.

The abstinence symptoms are not so severe as with mor-

phine and may not appear for several days. Erlenmeyer has called attention to a profoundly depressed, lachrymose, demoralized condition, with moaning and sighing which may supervene. The persecutory delirium may persist for a long time and constitute the patient a very dangerous individual.

Morphine and cocaine addiction may also produce a neuropsychopathic state, with symptoms of cerebral neurasthenia—morbid impulses, insistent ideas, etc. The author has recently had such a case under observation, in which the patient suffered from a convulsive tic with mental depression and suicidal impulse. Recovery followed prolonged abstinence.

Treatment.—Isolation should be insisted upon. The drug may be withdrawn rapidly as the symptoms of abstinence are not marked as in morphine. The prognosis of deprivation is good, but relapses are pretty apt to occur.

Miscellaneous Intoxicants.

Various other drugs may produce marked mental disturbances as a result of acute or chronic poisoning or habituation. The limits of this work permit only of their mention. They are chloral, cannabis indica, somnal, sulfonal, paraldehyde, ether, chloroform, antipyrin, phenacetin, trional, chloralamid, iodoform, belladonna, hyoscyamus, salicylic acid, quinine, the preparations of lead, arsenic and mercury and the bromides.

The mental effects of poisoning from all of these is in the main an acute hallucinatory confusion. If recovery is not prompt a paranoid state may persist for a variable period.

CHAPTER XVI.

PSYCHOSES ASSOCIATED WITH OTHER DISEASES.

THE NEUROSES.

The so-called neuroses, especially hysteria and neurasthenia, might properly be classed with the psychoses and designated as *psycho-neuroses*, as mental symptoms are almost invariably present and in hysteria and neurasthenia especially form part of the symptom-complex.

Hysteria.—The mental symptoms of hysteria may be divided into those constant phenomena which are present throughout the course of the malady—the symptoms of the *interparoxysmal period*, the so-called *mental stigmata*, and those more or less closely connected with the paroxysms—the *episodic phenomena*.

Mental Stigmata.—The principal symptoms of the interparoxysmal period are: *Anesthesias*—disseminated, segmental, hemianesthesia, *hyperesthesias* usually disseminated. *Motor disturbances*—contractions, catalepsy, paralysis. *Amnesias*—partial or general. *Debility of the emotions*—loss of will power, suggestibility.

It must be fully understood that all these symptoms, even the sensory and motor disturbances, are purely mental.

Episodic Phenomena.—These phenomena may precede or follow an hysterical crisis, or, as in epilepsy, may be substituted for one. They are principally states of *exaltation*, *depression*, *delusions*, *lethargy*, *somnambulism*, *fixed ideas*, *delirium*, *choreiform movements*.

Conditions of *delirium* with great confusion, clouding of consciousness and hallucinations are common.

Dream states are also quite characteristic of this disease, as they are of epilepsy and alcoholism.

A characteristic of these episodic manifestations is their very frequent association with amnesia.

It will often be found that the crises of hysteria are associated with certain sub-conscious ideas, usually connected with some previous experience, having a large content of painful emotion, which has been forgotten.

In fact the psychology of hysteria is the psychology of these sub-conscious states and their method of growth by a process of dissociation, or splitting of the normal consciousness. Following these periods of sub-conscious activity the patient may have absolutely no recollection of what has occurred, so that the phenomena have often been looked upon as disturbances of memory.

While in the normal individual, however, memories lapse by a process of gradual subsidence in the face of the intensive present, in these other conditions the events cannot be said to lapse in this way as they no longer are in direct connection with the personal consciousness. In these instances a dissociation has taken place, there has been a fault, a line of cleavage which separates them much more completely.

This cleavage with the resulting dissociation is an abnormal phenomenon and the manifestations which follow result from a split-off state in the sub-conscious which tends always to become dynamic.

This condition of dissociation has its origin in a severe emotional shock, or in a series of small shocks. It occurs more particularly in young people, being more readily brought about in that condition of lability incident to development and as at this time the sexual preëmits a very prominent place in mental life the resulting picture is correspondingly colored.

The dissociation in its beginning may be of any extent. A certain portion of the then consciousness of the individual at the time of the accident is separated by a plane of cleavage from his subsequent mental existence and in relation to that mental existence is said to be sub-conscious.

The process of dissociation, having once begun, tends to con-

tinue and new material is constantly being added to this secondary state by further cleavage and also by assimilation by this state itself as it begins to lead an independent existence. Thus the tendency is for it to continually grow, and when that growth takes place by repeated cleavage, to grow at the expense of the personal consciousness.

This is the process of dissociation but associated with it is the dynamogenic quality of the dissociated states spoken of above and which is responsible largely for the manifestations that have attracted attention. How can this factor be explained?

In the normally functioning mind there is constantly going on a "battle of motives," a struggle for supremacy between the several elements, much like the struggle recently described as between the physical elements of the body which results in certain structural types. The result of this is that differences of tension tend to occur in different areas, but as these areas are all organically connected, discharge taking place along the lines of least resistance drains those at high tension. Inhibition by drainage (McDougall) occurs.

Now in these dissociated states, separated from the personal consciousness by a plane of cleavage a plus tension finds no relief. The energy not being drained as normally, accumulates to the point of explosion, and breaking over the gap which separates it from the upper strata manifests itself in waves of disturbance therein. Thus we have the phenomena of epileptiform and hysteriform crises, transient deliria, episodic depressions and a multitude of other sensori-motor expressions. These expressions recur and naturally tend to become periodic.

On the other hand, during periods of inactivity of the upper consciousness, as in hypnotic, hypnoidal (Sidis) and dream states the secondary states tend to assume the ascendancy.

Whether the secondary states ever assume the dignity of a personality or not is merely a question of degree. They tend to organize and to grow and if the process keeps up it is only a question of time when a new personality will be born. If

these states grow largely at the expense of the personal consciousness this latter may finally assume a relative position of inferiority.

Diagnosis.—Epilepsy is the most difficult disease from which to differentiate hysteria. This is particularly so because of the convulsive attacks in each. The diagnosis must often rest upon the presence of the hysterical stigmata in the inter-paroxysmal period, as the attacks are often not seen and cannot be distinguished by the description given. The presence of these stigmata will usually suffice, as hysterical convulsions and true epileptic convulsions seldom occur in the same patient. Hysterio-epilepsy is not a combination of the two diseases, but hysteria with associated epileptiform attacks.

The differentiation from the other psychoses is to be made from the history and the presence of hysterical stigmata.

Treatment.—The principle of treatment is to reëstablish the broken associations. This is generally best accomplished by inducing a semi-sleeping state—the hypnoidal state of Sidis—tapping the sub-conscious in this way, and then by a gradual arousing of the patient bridging the gap between it and the upper consciousness. (The subject is somewhat too extensive to go into further in a work of this character.)

Neurasthenia.—*Symptoms:* Like hysteria the manifestations of neurasthenia are protean and numerous. The disease may be hereditary, constituting so-called *constitutional* neurasthenia, or it may be *acquired* by exhausting and debilitating conditions, usually acting over a considerable period. Symptoms of hysteria are not infrequently combined with those of neurasthenia, constituting *hystero-neurasthenia*. Neurasthenia is usually classified in accordance with the organs about which the symptoms most prominently group themselves into *cerebral*, *spinal*, *genital*, *gastric*, *angiopathic*, or in accordance with the cause as *lithæmic* and *traumatic*.

The symptoms are those of *fatigueability* and *depression*, with special symptoms associated with the viscera, such as dyspepsia, diarrhea, headache, various paresthesias, particularly

band-like and pressure sensations of the head. The depression is often associated with hypochondriacal ideas, phobias, obsessions, fixed ideas and impulsions.

Diagnosis.—The diagnosis must be made from the early stages of paresis and dementia precox, and from the depressive stage of manic-depressive insanity.

Treatment.—In the main the treatment should be tonic and restorative. The Weir Mitchell rest cure is effective in many of these cases and accomplishes its results quite as much, in many cases, because of the effect on the mind of the patient as because of the result in improvement of bodily health. This group of cases are especially favorable for a rational psychotherapy.

Epilepsy.—The mental disturbances associated with and due to epilepsy may be considered as divided into the *paroxysmal* and the *interparoxysmal*.

Paroxysmal.—These are either associated with the attack—unconsciousness, psychic epilepsy (dream states, automatism, furious maniacal attacks followed by complete amnesia)—or else pre- and post-epileptic attacks, often of a maniacal order, but frequently, especially following an attack, being delirious. Amnesia follows all these states.

Interparoxysmal.—These symptoms go to make up the epileptic character. They are, in the main, transitory attacks of ill-humor, sometimes violent temper and impulsiveness, associated with a certain degree of dementia, manifested by dullness, apathy, unreasonableness, with frequently associated religious fervor. Delusional states not infrequently occur. If the epilepsy has begun in early life a degree of imbecility or idiocy results.

Diagnosis.—These various mental conditions are diagnosed by a careful study of the history and the presence of undoubted epileptic convulsive seizures. Differential diagnosis must be made from hysteria, catatonia, the delirium of alcohol and other intoxicants and infections, and from the delirious states of paresis.

Treatment.—The treatment is the treatment of epilepsy. When dangerous tendencies are associated with the attacks the patient should be confined in an appropriate institution.

OTHER NERVOUS DISEASES.

Chorea: *Sydenham's Chorea.*—Patients with chorea are usually impatient, irritable and emotionally unstable. Some of the cases develop terrifying dreams and hallucinations, especially at night. Marked psychotic symptoms develop in the variety of the disease known as *chorea insaniens*, an acute confusion, sometimes of violent type, develops with hallucinations and often a paranoid condition with delusions of persecution. Sometimes a condition of stupor is observed.

Diagnosis.—The diagnosis is made by the association of the mental symptoms with the characteristic choreic movements.

Huntington's Chorea.—This disease is associated on the psychical side with gradual mental impairment.

Paralysis Agitans.—This disease is often associated with a mild degree of mental enfeeblement.

Multiple Sclerosis.—The mental condition is usually one of slight impairment, especially with emotional instability. The patient laughs and cries very easily.

Diagnosis.—The disease must be differentiated from paresis which it often closely resembles.

Polyneuritis.—See Korsakow's Psychosis, Chapter XV.

Treatment.—The treatment of all these conditions is the treatment of the underlying disease.

ORGANIC DISEASES AND INJURY OF THE BRAIN.

Tumor.—Mental symptoms are more apt to occur when the tumor is located in the pre-frontal region. They are change of character, irritability, childishness, emotional instability, with a tendency to hebetude and some clouding of consciousness. Hallucinations may develop as the result of the invasion by the growth of sensory areas.

Diagnosis.—The diagnosis is made from the presence of the

classical symptoms of tumor and a study of the localizing symptoms. The disease most apt to be confounded with tumor is paresis. Cases are seen on the one hand to present quite clear local symptoms and subsequently turn out to be paresis; while on the other hand cases are seen without local symptoms and which appear to be paresis but which turn out to be tumor.

Syphilis.—An acute delirium may develop during the early secondary manifestations of the disease. Later marked manifestations may be connected with local or general disease of the brain. Gumma are rare and give the symptoms of tumor. The most common condition is a progressive disease of the cerebral vessels, often with thrombosis.

The mental symptoms are those of dementia, to which are added local symptoms as a result of thrombosis. The symptoms will of course vary according to the location of the softening.

Diagnosis.—Many of these cases are extremely difficult to differentiate from paresis. Brain syphilis occurs a shorter period after luetic infection, is more marked by localizing symptoms, especially ocular palsies, often is associated with severe headaches, which are usually worse at night, and the symptoms, with the exception of those due to destructive lesions, yield to anti-syphilitic medication.

It must not be forgotten that a sluggish light reflex and even an Argyll-Robertson pupil may be found in cerebral lues.

Apoplexy.—The mental condition, following apoplexy is usually one of impairment which, if the lesion is considerable, progresses to marked dementia. If the softening involves the speech area, especially if it produce sensory aphasia, the dementia is much more rapid in progress, as it must be remembered that these patients are usually senile. Epilepsy often develops as a result of a localized area of softening.

Arterio-sclerosis.—This condition is associated with a progressive failure of the mental faculties and local symptoms, due to areas of softening. Because of the diffuseness of the lesions the picture often closely resembles paresis, but the patient is

much further advanced in years than is usual for the paretic. Cerebral arterio-sclerosis furnishes the connecting link between the psychoses of involution and of the senium. Many of the late depressions present the picture of beginning senility, and in general the later the depressions come on the worse the prognosis, while many of these cases drift over into a senile, or arterio-sclerotic dementia.

Alzheimer has described four varieties of the disease which are to an extent differentiated clinically. These varieties and their differentiations are well summarized by Barrett.

1. *Arterio-sclerotic Brain Atrophy*.—This occurs in two forms, a mild form with severe arterial sclerosis but an absence of focal brain lesions. The symptoms are easy fatigue, slight failure of memory, dizziness and headache. The severe type may resemble the mild at first but is progressive, leads to profound dementia and presents in its course apoplectiform and epileptiform attacks and focal symptoms.

2. *Subcortical encephalitis* of Binzwanger. In this condition the white matter is largely involved as a result of the disease in the long medullary arteries. Apoplectiform and epileptiform attacks occur and also transitory attacks of confusion, aphasia and paresis, disturbances suggesting focal lesions. Focal lesions are not found extensively but areas of softening often occur in the basal ganglia.

3. *Perivascular Gliosis*.—In this condition there is a disappearance of nervous elements about the diseased vessels and replacement by neuroglia.

4. *Senile Cortical Devastation*.—Here we find extensive destruction of cortical areas in the vascular territories of the diseased vessels.

Diagnosis.—The disease most apt to be confounded with arterio-sclerotic dementia is paresis. It is extremely difficult to differentiate many cases of paresis with focal lesions. In general paresis occurs earlier in life and presents more uniform impairment.

Treatment.—In the main the treatment should be to so regu-

late the life as to take all unnecessary strain from the cardiovascular symptom. Easily assimilated food, care of the emunctories, moderate exercise, freedom from worry and from mental or physical exertion. For the insomnia alcohol in the form of a small dose of whiskey and water at night is excellent, but should be given with great care and its administration carefully guarded, as these patients are especially susceptible to it and often develop periods of confusion from very small doses.

Traumatism.—The most frequent symptoms following trauma are those of hysteria and neurasthenia. Dementia precox, manic-depressive insanity and paresis may follow an injury.

After the injury a delirium may develop. Aside from this, mental symptoms may not occur for a considerable time, and when they do they usually consist of an apathetic dementia with often irritability. There are often memory defects, especially amnesia for the time of the injury, and these defects may be filled in with fabrications. There is almost always intolerance of alcohol.

Meyer classifies the effects of traumatism in the nervous system as follows:

1. The direct focal and the more diffuse destruction of the nerve-tissue or of parts of it; and the reaction of the tissues.

- (a) The immediate effects—edema.

- (b) The scar formation.

2. The distinctly diffuse commotions in which the general reaction and the psychic elements preponderate, including the remote reactive results of exaggerations of vasomotor and emotional responsiveness.

He classifies the psychoses developing as follows:

1. *Post-traumatic deliria*, including febrile reactions, the *delirium nervosum* of Dupuytren, not differing from post-operative delirium, the delirium of the slow solution of coma in alcoholic as well as non-alcoholic subjects, protracted deliria with confabulation with or without alcoholic or senile basis.

2. *Post-traumatic Constitution*.—Excessive reaction to alcohol, la grippe, etc., the vasomotor neurosis of Friedman, the “explosive diathesis” of Kaplan, hysteroid or epileptoid episodes, with or without convulsions, paranoid states.

3. *Traumatic Defect Conditions*.—Conditions allied to aphasia, deterioration with epilepsy, deterioration due to the progressive alteration of the primarily injured parts, with or without arterio-sclerosis.

4. *Psychoses in which trauma is merely a contributory factor*.—Paresis, manic-depressive, dementia precox.

5. *Traumatic psychoses from injury not directly affecting the head*.

DISEASES OTHER THAN NERVOUS.

Various other diseases have from time to time mental symptoms associated with them. The great majority of such diseases, if not all of them, have elements of infection or toxemia and exhaustion combined with or part of them. We therefore see the mental symptom complex of confusion arise most typically. In some cases, especially, the less acute paranoid conditions occur and hallucinosis is of occasional occurrence.

Head has recently shown that certain visceral diseases, especially of cardio-vascular and pulmonary origin, often have associated mental symptoms, although they may not appear except on the most careful examination. The symptoms found are: (1) Hallucinations of vision, hearing and smell; (2) moods, either of depression or exaltation, and (3) suspicions, usually occurring when a depression has persisted for some time.

These conditions take their origin as a result of reflected visceral pains. Each spinal segment has both a visceral and a cutaneous representation. Disease occurring in the visceral area is referred to the cutaneous surface supplied by the same segment. The cutaneous distribution of the fifth nerve corresponds to the visceral distribution of the vagus, so pain occurring in the vagus territory will be referred to the scalp and thus

occur points of tenderness in this region with which the hallucinations are associated. The mood of exaltation is essentially transitory and arises as a contrast phenomenon of the depression and as a result of the disappearance or lessening of the reflected somatic pain.

CHAPTER XVII.

BORDERLAND AND EPISODIC STATES.

Psychasthenia.—Under this term Janet includes obsessions, impulsions, insanity of doubt, tics, agitations, phobias, delirium of contact, anguishes, neurasthenias and the bizarre feelings of strangeness and of depersonalization often described under the name of cerebro-cardiac neuropathy or disease of Krishaber. By considering all of these varied conditions together as results of a fundamental underlying state he would thus erect psychasthenia into a psycho-neurosis.

This psycho-neurosis has as its fundamental symptom the *lowering of the psychological tension*. If we can think of our mental force in mechanical terms and conceive of it as flowing along the fiber tracts like steam in a pipe, then we may believe that this force has to be maintained at a certain tension in order that the perceptions from the outside world may be appreciated at their true value. If attention is lowered the perceptions are not acute. This lack of acuteness gives origin to feelings on the part of the patient of incompleteness and insufficiency. Now this state of affairs involves a certain deficiency in the perception of reality which requires a certain concentration and complexity of content, in other words, a high psychological tension.

This lowering of psychological tension, feeling of incompleteness and deficiency in the "function of the real" constitutes the fundamental common feature of all this class of phenomena.

The lowered tension gives rise to various symptoms in proportion to the degree of lowering. If the mental functions are erected into a hierarchy in proportion to the difficulty of their accomplishment it will be seen that the accurate estimation of

reality stands first, reverie and imagination come lower down, and muscular movements last. As the tension is lowered reactions will tend to follow in the order of this psychological hierarchy.

Psychasthenia stands midway between epilepsy and hysteria. In both psychasthenia and epilepsy the fundamental condition Janet thinks is this lowering of psychological tension. In epilepsy this lowering is sudden, very profound, leading even to unconsciousness, and is then practically completely recovered from, while in psychasthenia it is more or less constant but of much less degree. Thus psychasthenia is attenuated and chronic epilepsy. Hysteria, on the other hand, is characterized by a "retraction of the field of consciousness." While in psychasthenia the defect is more or less uniform over the whole field of consciousness, in hysteria the portions of the field retained may be quite up to normal or even hyper-normal.

The classification of the various symptoms of psychasthenia is difficult because of their multiplicity and variability. Using the word obsessions in a broad sense to include the conditions I have described as obsessions, fixed ideas and impulses, in the chapter on General Symptomatology, because of the desirability of considering them under different heads, we may divide obsessions into *emotional*, *intellectual* and *impulsive*, in accordance with their predominating characters, realizing meantime that the distinctions are only general ones and the lines of differentiation not hard and fast.

Emotional obsessions include the various *phobias* and the *morbid desires*. Some of the more common phobias are *agoraphobia*, fear of open places—the subject is afraid to cross an open square, hugs to railings and keeps close to the houses. *Claustrophobia*, fear of close spaces, crowded rooms. *Astraphobia*, fear of thunder and lightning. *Aërophobia*, fear of being in high places, etc.

These phobias come on suddenly, overwhelm the patient, who is seized with trembling, pallor, sweating and all the signs of fear, despite the fact that he appreciates fully meantime that

there is no reason for fear and has a full understanding of the morbid character of his obsessions.

The morbid desires are in the main the desires for liquor and drugs. In *dipsomania* the patient has periodical attacks of discomfort often, with feeling of pressure on the head and tachycardia; this continues to grow worse until the desire to take liquor is yielded to. We have somewhat similar conditions with desire for morphine, cocaine, etc.

Impulsive obsessions include the various *manias*. Some of the more common manias are kleptomania—impulse to steal, the patient often taking what is not wanted and what he could afford to buy. *Pyromania*, an impulse to set fire to things. *Arithmomania*, the impulse to count everything, the letters in a word, objects passed in the street, etc. *Onomatomania*, the obsession of a word, usually the impulse to repeat it over and over again, or to seek for it in one's memory, etc.

These manias, as in dipsomania, make the patient uncomfortable until yielded to; although he appreciates the abnormal character of the obsession, the tendency has finally to be yielded to.

Intellectual obsessions are the obsessions which do not lead to action and which have not a large emotional content. Here would be included the *doubters*, who are always asking themselves questions about trivial things, though often in regard to religious matters, wondering if there is a God and the like. The so-called *metaphysicians* especially are occupied with abstract questions on the nature of the universe, problems of matter and mind and the like.

Régis makes a class of *aboulie* obsessions which lead to inhibition of all action, producing such symptoms as *astasia-abasia*—inability to stand and walk. This symptom, however, is usually hysterical.

The peculiarity of all psychasthenic symptoms is that they occur with clear consciousness, the patient fully recognizing their abnormal nature.

Course and Prognosis.—The course of psychasthenia is epi-

sodic and the outlook in the main not very good as to recovery, as there is usually a pronounced neuropathic basis for the symptoms.

Treatment.—The treatment should be directed to improving the general health, but the main line of treatment is mental and requires the most detailed regulation and re-education of the mental life.

Psychopathic Constitution.—There are many anomalies of character which because normal or usual to the individual cannot be said to properly constitute insanity, but because they lead to a rather inefficient type of adjustment of the individual to the environment, and because persons exhibiting these peculiarities often become actively insane, may be considered as borderland conditions.

We have already, in previous chapters, learned something of the *hysteric* and *epileptic* characters. We know the general type of inefficiency of the *neurasthenic* and latterly have described the *psychasthenic* character, and attention has been called to the *unresistive* and the *post-traumatic* types with the intolerance of alcohol and fever.

Besides these there are the “*cranks*,” who, with some pet scheme, closely approach the paranoiac type and that host of *ill-balanced, eccentric* individuals who may be superficially brilliant but lack continuity of purpose and capacity for the continuous expenditure of effort in any one direction. Their life, to use the well chosen words of Régis, is one “long contradiction between the apparent wealth of means and poverty of results.”

Constitutional anomalies of mood are seen, those who are always depressed for no particular reason—*psychopathic depression*—and the opposite state—*psychopathic exaltation*. Other cases never seem to be quite able to successfully cope with conditions; they are the failures of life, the cases of *constitutional inferiority*.

More pronounced defects of character are seen in the *crimi-*

nal classes, many of whom lack the ordinary moral inhibitions and are properly classed as *moral imbeciles*.

ANOMALIES OF THE SEXUAL INSTINCT.

Quantitative Anomalies.—These are *frigidity* or lack of desire for sexual congress—*sexual anæsthesia*—or *eroticism*—*sexual hyperæsthesia*.

Qualitative Anomalies.—These are *inversions* and *perversions*. Inversion consists of a lack of harmony between the physical and the psychical sex and leads to *homosexuality* or desire for persons of the same sex. Various physical anomalies are found in these persons. For example, the general conformation of the body, pilosity, etc., may indicate one sex, while the genitalia are of the other. The perversions are many and include the various abnormal means of gratifying the sexual appetite. The most important are:

Masturbation.—Masturbation is very frequent among psychopathies and much oftener a result than a cause of mental anomalies though undoubtedly an important factor in some cases of acute psychosis.

Active Allogagnia (Sadism).—The gratification of the sexual feeling by the infliction or sight of pain—real or simulated—in the latter case the sadism is *symbolic*. As the male is normally the more active and aggressive in the sexual relation we find, as might be expected, this anomaly more frequently in men.

Passive Allogagnia (Masochism).—The gratification of the sexual feeling by suffering pain—real or simulated. In the latter case it is *symbolic*. The female, being the more passive of the two sexes in the sexual relation, so we find an exaggeration of this passivity more common among women.

Fetichism.—Sexual excitement and gratification by the sight, contact or possession of some object or part of the body. The object is usually some wearing apparel, such as shoes, handkerchief, petticoat or a part of the body other than the sexual organs.

Bestiality.—Sexual relation with animals.

Exhibitionism.—Sexual gratification by exposing the genital organs.

Nechrophilia.—The desire to have sexual congress with a dead body.

CHAPTER XVIII.

IDIOCY AND IMBECILITY.

In drawing a distinction between dementia and idiocy, Esquirol well said: "The demented man is deprived of the good that he formerly enjoyed; he is a rich man become poor; the idiot has always lived in misfortune and poverty." The idiot, the imbecile, the feeble-minded lack something; the insane are suffering from a disorder of that which they possess.

The distinction is here clearly drawn between insanity and idiocy and imbecility. The former is a breaking down, a disorder of mind, the other is the result of a certain lack of mind. In making this distinction we must not lose sight of the fact that the feeble-minded, imbecile and idiot may become insane, and transient attacks of mental disturbance of this sort are not infrequently observed among them.

The various grades of idiocy and imbecility may take their origin at any point in the development of the individual, during intra-uterine life, at birth as a result of injury, after birth as a result of injury or disease which interferes with further development.

Thus various defect conditions fall rather naturally into certain groups, but the same difficulty is experienced in endeavoring to classify them from any one standpoint, as was experienced in the realm of the psychoses. They will be considered under the several practical heads and a few words devoted to each class.

Feeble-mindedness.—A condition of slight mental defectiveness capable of much improvement by educational methods. The afflicted individual may ultimately take a place in the world and be self-supporting under favorable circumstances.

Imbecility.—A condition of mental deficiency which can,

however, be materially improved by training, but not sufficiently for the subject to take a place in the world.

Moral Imbecility is a condition of mental defectiveness which is shown in the absence of the highest functions, particularly the moral; capable of training to a considerable degree, but always a menace to society.

Idio-Imbecility is a condition midway between idiocy and imbecility.

Idiocy is a condition of profound mental defectiveness. The lower grades are unteachable, while the higher may be trained slightly in self-help, *i. e.*, to attend to the calls of nature.

Causes.—The causes of idiocy, like those of insanity, are numerous and varied. Hereditary defects are found in the ascendants in a large proportion of cases. Accidents and injuries, especially those associated with prolonged labor and instrumental delivery, are common causes, while diseases involving the brain, such as the acute infections—pneumonia, typhoid, the exanthemata—and syphilis often play a role. Alcoholism in one or both parents, especially drunkenness at the time of conception, is probably a very frequent factor, while any infection or debilitating condition of the parents is important. Fright of the mother probably is a potent factor as indicated by the statistics of births during sieges.

The popular idea that consanguineous marriages are productive of idiocy in the offspring is not borne out by statistics. Consanguineous marriages are probably no more dangerous than any others. They would only produce unduly direful results when a bad family strain is present in both parties and is thus cumulative in the offspring.

General Considerations.—The symptoms which should attract attention to the mental state of a child, aside from marked physical abnormalities, are a stupid and vacant look, prolonged and unprovoked crying and difficulty in taking the breast.

Later on it is noticeable that the several faculties do not develop when they should. The child neither learns to walk or to talk as early as other children, and a study of other psychic

qualities would develop the same fact. The degree of idiocy may be measured by the stage of development reached as compared with the average normal child. For such detailed comparisons the student is referred to special works.

The idiot is usually comparatively quiet or very excitable and has been correspondingly classified as *apathetic* or *excitable*. Certain of the excitable idiots keep up certain definite and characteristic movements almost continuously—these are the *rhythmic idiots*. Many other motor anomalies are found frequently, such as paralysis, athetosis and epilepsy.

Amaurotic Family Idiocy.—This form of idiocy, described by Sachs, seems to occur almost exclusively among Jewish children. The principal symptoms are idiocy, paralysis, usually spastic, of all four extremities and progressive blindness from optic nerve atrophy. The patients usually die during infancy.

Thyroigenous Idiocy.—This form includes idiocy due to endemic and sporadic cretinism and also cases due to myxedema. They present the characteristic symptoms of these diseases with those of idiocy.

Hydrocephalic Idiocy.—Idiocy associated with hydrocephaly. Although hydrocephalus usually leads to early death, life may be prolonged to an advanced age and marked degrees of the malady may occur without the profound defects of idiocy. A case of most pronounced hydrocephalus recently died in the hospital upwards of fifty years of age. During his earlier life he had made a livelihood by the simple process of ringing a church bell. During the latter months of his life he deteriorated very profoundly, became absolutely blind and deaf, unable to lift his tremendous head from the pillow and died in coma. All of the symptoms were undoubtedly due to the pressure, as the brain was found post-mortem to be little else than a bag of water.

Microcephalic Idiocy.—Idiocy associated with extreme smallness of head. No definite rule can of course be laid down as to the definite size of head that shall be considered as micro-

cephalic, but Ireland says in general that all heads below seventeen inches in circumference (431 millimeters) may be so considered.

Paralytic Idiocy.—Idiocy associated with paralysis. The commoner paralyzes are the monoplegias and diplegias. These conditions are consequent upon gross cerebral lesions, such as the lack of cerebral substance, resulting in a cyst connected with the ventricle—*true porencephalus*, or due to cysts not connecting with the ventricles and resulting from softening, hemorrhage or inflammation—*false porencephalus*. It depends entirely upon the location of the lesions as to the symptoms.

Epileptic Idiocy.—Idiocy with epilepsy. Epilepsy is a common associate of idiocy, especially in those cases where there are gross cerebral lesions as in the paralytic idiots. The term epileptic idiocy should be reserved for those cases where the idiocy may reasonably be supposed to depend on the epilepsy.

Traumatic Idiocy.—Idiocy the result of trauma. The most common trauma are those associated with prolonged and difficult labor with instrumental delivery.

Sensorial Idiocy.—Idiocy by deprivation. This is the idiocy that results when a child is deprived of two or more of the principal senses, such as sight and hearing. As knowledge and education are dependent in the first instance upon the integrity of the sensorium, such a serious defect, making it impossible for the child to receive the material out of which knowledge is elaborated, results in lack of development of the mind.

Inflammatory Idiocy.—Here we find idiocy due to the various forms of inflammatory conditions of the brain and meninges. The cause of these inflammations may be any of the infectious fevers, as pneumonia, typhoid, the exanthemata. The inflammation may be meningitic or include the brain proper, as in Strümpell's infantile encephalitis of the motor region analogous to anterior poliomyelitis. The physical symptoms vary according to the location and the extent of destruction of tissue resulting.

Sclerotic Idiocy.—Idiocy found not infrequently associated with the condition known as *tuberous sclerosis*. These cases usually die young, being greatly reduced by frequent epileptic attacks. The post-mortem discloses numerous areas of firm consistence and white color in which the nervous elements are lacking. The cause of the condition is not fully determined.

Idiots-Savants.—These are rare cases who, although idiots, still have some special faculty wonderfully developed. It may be music, calculation, memory for some certain variety of facts, etc.

The calculators can name the answer to mathematical problems almost instantly; the musical prodigies often play well and even improvise; one of my cases could instantly name the day of the week for any date for years back. Many of these cases have a capacity for mimicry and buffoonery, and from this class undoubtedly were recruited, in the old days, many of the court fools.

The psychology of these cases is not understood. The patients themselves are quite unable to give an explanation of their abilities.

Idiots are further spoken of by general descriptive terms that indicate the resemblance to certain types. Thus we have the *Mongolian*, *American Indian* and *Negroid* types.

Course and Prognosis.—The condition of these defectives usually remains stationary, though sometimes severe epilepsy or severe illness may reduce them still further. Some may actually become insane, developing hallucinations, abnormal activities, and, if the mentality permits, delusions. The prognosis is absolutely bad as to recovery and poor even as to life, the mortality of idiots being far above that of the general population.

Treatment.—Aside from the thyroid treatment in the cretinous forms the sole treatment is educational. This can, of course, only develop what is already there and in the main should be practical only, teaching the child to care for itself. The most is to hoped for in the sensory types, where there may

be no real defect of brain, only an absence of sense organs. The well-known cases of Laura Bridgman and Helen Kellar illustrate the wonderful results that may be accomplished in this class of cases. To get results at all requires in the highest degree patience, tireless application and ingenuity, qualities few persons possess.

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